GREEN 753 Plus

NOTEBOOK COMPUTER

TEST REPORT

Version :1.1
Feb. 1997

GVC/ALPHA-TOP

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GREEN 753 P1MS

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Green753 *Plus* Product Specification

1..General Description

This document describes the detailed product specification of the notebook.
Green753 *Plus* is a full function, high performance notebook providing complete multimedia functionalities with 12.1" SVGA color LCD. The notebook has CD-ROM drive built-in.

2..CPU

- Intel Pentium P54C, P54LM , P54CSLM, P55C* series
- ZIF socket
- 3.3V for basic configuration
- Regulator to match different CPU power rail (2.5V / 2.9V / 3.1V / 3.3V)
- Running at up to 166 MHz(internal clock)
  (Max. speed of CPUs: P54C-75, P54LM-100, P54CSLM-150*, P55C-166*)
  Note: 1. The available CPU(by 4/25/1996) is up to P54CSLM-133
  2. " * " when available
- BUS clock up to 66 MHz

3..Core Logic.

- Controller: Intel 430 MX
- Supports pure PCI bus
- Supports Windows95
- Supports Plug & Play

4..Memory

4.1..Main Memory:
- 16MB on board(factory optional)
- 8/16/32 MB memory card options (72-pin standard DIMM socket x 2)

4.2..ROM:
- 256KB x 1 Flash Memory

4.3..Cache Memory
- 256K L2 write-back cache, Pipeline Burst Synchronous SRAM factory optional

5..Mass Storage

5.1..HDD:
- 2.5" ,19 mm HDD space
- Supports equal or greater than 810 MB
- Enhanced IDE interface
- Reseller upgradable

5.2..FDD:

- 3.5" 720K/1.2MB/1.44MB diskettes support , 1.2MB format support for NEC PC compatibility

5.3..CD-ROM drive:

- 5.25" standard CD-ROM
- Supports 6x or 8x speed CD-ROM drive
- Enhanced IDE interface

6..Video System

6.1..Video Controller: Neo-Magic 2093

6.2..Graphic Feature

- Windows GUI Accelerator
- Running on PCI bus
- Support up to 1024×768×256 colors mode on external CRT
- Support 800×600 SVGA color LCD panel

6.3..Video Memory:

- Video menory on chip

6.4..LCD Display:

- The whole assembly is field-interchangeable
- 11.3" DSTN / TFT SVGA color LCD
- 12.1" DSTN / TFT SVGA color LCD

7..I/O Ports

7.1..Standard Ports

- One 16550 UART RS-232 serial port (9-pin male D-connector)
- One parallel port support EPP/ECP (25-pin female D-connector)
- One video port for external analog VGA monitor (15-pin female D-connector)
- One Game / Midi port (15-pin female D-connector)
- One external auto-sensed PS/2 keyboard/mouse connector(6-pin mini-DIN connector),
- One DC input port for external AC adaptor (2-pin DC jack)
- One Type III and one Type II PCMCIA card socket
- Docking Station Connector
- Line-in /Line-out / Mic-in for sound card
- Fast IR port, IrDA compliant
- Composite video output port for display on TV set

7.2..I/O controller

- NS 87C338 + CMD PCI0646

7.3..PCMCIA

- Controller: Cirrus Logic-6730 / O2Micro-OZ6730
- 3.3V/5V card support
- Supports Zoom-Video port

8..I/O Devices

8.1..Keyboard:

- US/Europe, DOS/V keyboard for Japan full sized keyboard alike pitch
- Key stroke: about 3 mm
- Twelve function keys
- Inverted "T" cursor control keys layout
- Screwless removable
- Internal keyboard works as standard 101/102 keys desktop keyboard

8.2..Pointing Device: Touchpad(Synaptics)
- Touchpad under space bar of keyboard
- Both external PS/2 mouse and internal pointing device can work concurrently

8.3..Sound System
- Controller: ESS 1878
- Sound Blaster, Sound Blaster Pro Compatible and Microsoft Sound System For Windows compatible
- 16-bit stereo sound
- Wave Table
- Microphone and two speaker built-in

9..System Software

9.1..System BIOS:
- Phoenix PnP BIOS

9.2..VGA BIOS:
- Neo-Magic

9.3..Operating System:
- Optional MS-DOS 6.22 or above version
- Optional Windows 3.1 or above version
- Optional OS/2 2.1 for Windows or above version
- Optional Windows NT
- Optional Windows '95

9.4..Device Drivers and Utilities:
- Neo-Magic: VGA driver and utility
- ESS: Audio driver
- SystemSoft: PCMCIA driver
- Synaptics: Touch-pad driver
- TEAC: CD-ROM driver
- PUMA: Fast IR Utility
- Software MPEG driver(optional)

10..CMOS Setup:

10.1..Normal information
- Displays system information
- Password protection of setup entry
- No cursor stop if item is unchangeable

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- Password support
- Block mode IDE support

11..Power Management System

- Multiple-mode power management scheme
- Static suspend
- Suspend to HDD
- Modem ring and any key triggered resume
- APM1.2 support
- Battery gas gauge support
- Suspend or warning on low battery

12..Power Subsystem

12.1..

- AC Adapter:
- 45W (Max.)

12.2..Battery:

- Battery pack with 10-cell NiMH or 9-cell Lithium Ion, user interchangeable
- Removable and rechargeable
- Battery gas gauge function support, providing accurate battery charging and discharging status

13..Human Factors

13.1..Dimension:

- 299(W)×230(D)×56 (H)mm
- 11.8" × 9." × 2.2"

13.2..Weight:

- 7 lbs (3.2Kgs) with battery and CD-ROM drive

13.3..Construction Description:

- LCD assembly is field upgradable with a few screws removed, and main unit is independent to the type of LCD module used
- Speakers are located at two upper corner of the base, and the internal microphone is located at the palm rest area and under the Touchpad module

13.4..LCD indicators:

- A/C- IN
- Battery
- Num Lock
- Caps Lock
- Scroll Lock
- Pad Lock
- HDD
- FDD
- CD-ROM

件管中心章 85. 8. 21 發行章

- PCMCIA
- SUSPEND

13.5..Hot Key:

- LCD brightness
- LCD contrast
- Audio Volume
- Display mode
- Suspend

14..Docking Station: Mini Docking

15..Accessories

- User's manual
- AC adapter
- Power cord
- Utility diskette
- Carrying bag

16..Optional Items

- Spare battery pack
- Mini-docking
- External Charger
- Memory expansion card
- DOS
- Windows
- Windows95
- OS/2 for Windows
- Windows NT

17..Environment

17.1..Temperature:

- Operating: 5°~35°C
- Non-operating: -20°~60°C

17.2..Humidity:

- Operating: 30%~90% (non-condensing)
- Non-operating: 5%~95% (non-condensing)

17.3..Altitude:

- Operating: -200~10000 ft
- Non-operating: -200~30000 ft

17.4..Shock:

- Operating: 10G, 11ms
- Non-operating: 50G, 11ms

17.5..Vibration:

- Operating: 10~27 Hz, 0.01"
- Non-operating: 5~62 Hz, 0.02"

17.6..Drop:
- 900mm

17.7..Noise:
- 35dB (max.) at 1 meter

17.8..ESD:
- Follow IEC 801-2 standard
- 8KV: no error allowed

17.9..P.L.T.:
- 1KV: without error

18..Regulation

18.1..Safety:
- UL 1950, CSA, TUV, CE

18.2..EMI:
- FCC class B, BZT, VCCI

19..MTBF
- 20,000 hrs, 90% confidence level

20..MTTR
- 30 min.

Note: The content is subject to change without notice.

Chapter 2 Power Supply

ADAPTER SPECIFICATION

Input Characteristics:

* Input Voltage: 100Vac to 240Vac +/- 10%, full range.
* Input Frequency Range: 47Hz to 63 Hz.
* Max. Input AC Current: 1.2A, 110Vac, input, full load.
* Inrush Current(coldstart): 30A(max.)@110Vac,60A(max.)@230Vac@full load & cold start.
* Efficiency: 78%min, at 110Vac input, full load, after warm up 30 sec.

Output Characteristics:

Static Output Characteristics(VO):

1. Constant Voltage Range	: 22.5Vdc+/-5%
Range	: 22.5Vdc+/-5%
Full load	: 2A(45W)
Min load	: 0A
2.Constant Current Range	:2.2A

* Load Regulation: +/-5%
* Ripple & Noise Test: Use 20MHz bandwidth frequency oscilloscope.
* Add 0.1 uF & 10uF capacitor at output connecter terminals for ripple & noise test.
* Load regulation is only measured in the constant voltage.

Dynamis Output Characteristics:

* Turn-on Delay Time: 5 sec Max.@110Vac, full load.
* Hold up Time: 10mS min, @110Vac, full load.
* Short Circuit Protection: Output can be shorted without damage.

Chapter 2

Dielectric Withstand Voltage:

* Hi-Pot Test: Primery to FG: 1500Vac/1min.

* Leakage Current: 0.75mA max,

RFI/EMI:Internal filter to meet

* FCC part 15 class B.

* VFG 243/1991

Product Safety:

* This power supply is designed to meet the following spec:

1.)UL 1950 Listed

2.)CSA C22.2 Level 3

3.)TUV EN60950

4.)CE

5.)NODEC

Environment:

* Operating Temperature:0 to 40 degree C.

* Operating Relative Humidity:15 to 85%RH.

* Stotage Temperature:-10 to 85 degree C.

Chapter 2 Power Supply

* Storage Relative Humidity:5 to 90%RH.

* Altitude: Operate properly at any altitude between 0 to 10,000 feet.

* Vibration:

Operating: 0.75G zero to peak, 5 to 500 Hz, 0.5 octave/minute, one cycle, 5 to 500 to 5 Hz per axis in each of three mutually peraendicular axes.

Non-operating: 1.5G zero to peak, 5 to 50 Hz, 0.5 octaue/minute, one cycle, 5 to 500 to 5 Hz per axis in each of three mutually peraendicular axes.

DC/DC POWER SPECIFICATION

Introduction:

* High efficiency, DC/DC converter for notebook computer.

Input Characteristics:

Input voltage range:

* AC/DC adapter:+22.5V+/-5% 45W Max.

* Battery:10 cells for NiMH Battery.(Optional Lithium-Ion 9 cells)

Input current range:

* From adapter:2.2A max(including charger).

Input pin assignment:

* Input jack:(1)VA (2)GND (3)GND

* Battery input connector:(1)VB (2)GND (3)BTID (4)NTC1(5)NTC2(6)DQ

Description:

*VA: connected to change source.

* VB: discharge path for battery.

* GND: system ground.

*DQ: battery gauge, data communication.

*NTC1&NTC2: both pins of NTC Thermister.

*BTID: Battery ID(the type of battery).

Output Characteristics:

Out put voltage parameter:

+5V O/P:

PARAMETER	SYMBOL	UNIT	MIN	NOM	MAX
Output current	Iout	Adc	0		3
Output Voltage	Vout	Vdc	4.75	5	5.25
O/P Ripple	Vrip	mV(p-p)			100
OCP	Ilim	Adc			4

+3.3V O/P:

PARAMETER	SYMBOL	UNIT	MIN	NOM	MAX
Output current	Iout	Adc	0		3
Output Voltage	Vout	Vdc	3.3	3.45	3.6
O/P Ripple	Vrip	mV(p-p)			60
O.C.P.	Ilim	Adc			4

+12V O/P:

PARAMETER	SYMBOL	UNIT	MIN	NOM	MAX
Output current	Iout	mAdc	0		150
Output Voltage	Vout	Vdc	11.4	12	12.6
O/P Ripple	Vrip	mV(p-p)			240

When adjust to 3.1Voltage get the follow table:

+3.1V O/P:

Chapter 2 Power Supply

PARAMETER	SYMBOL	UNIT	MIN	NOM	MAX
Output current	Iout	Adc	0		3.5
Output Voltage	Vout	Vdc	2.94	3.1	3.25
O/P Ripple	Vrip	mV(p-p)			100
O.C.P.	Ilim	Adc			5

* Remark: 1.The voltage is adjusted by a switch(sw2).

2.The voltage tolerance is +/-5%

Efficiency

0.8min

Test Condition:

* VBA: From adapter or battery
* +5V: 3A
* +3.3V: 3A
* +12V: 150mA
* +2.5V /+2.9V /+3.1V /+3.3V: 3.5A

Protection:

* OCP: Over Current Protection.

+5V Protection: 4A min

+3.3V Protection: 4A min

+2.5V /+2.9V /+3.1V /+3.3V Protection: 5A min

Humidity:

* Operation: 15-85%RH non-condensing
* Storage: 5-90%RH non-condensing

Temperature:

* Operating: 0-40degree C
* Storage: -20~+70 degree C

Charger Characteristics:

Charging current: (For Ni-MH)

1) Quick Charge: 2A(typ.), When the system is off.

2) Pulse Trickle Charge: 100~120mA

3) Trickle charge: 22mA(for reference), When battey vlotage is 12V.

Charger Control:

1-delta temperature / delta time

2-Max Voltage

3-Max temperature

4-Safety time

5-Nagative delta voltage

Chapter 3 DMA, Timer/Counter

DMA channel:

DMA Channel No.	Function
Channel 0	Sound Module/Ecp Support/Enhance IR
Channel 1	Sound Module/Ecp Support/Enhance IR
Channel 2	Floppy Disk
Channel 3	Sound Module/Ecp Support/Enhance IR
Channel 4	[Cascade]
Channel 5	Available
Channel 6	Available
Channel 7	Available

Programmable Timer/Counters:

Channel No.	Function
Channel 0	Supports system timer
Channel 1	Supports refresh cycles
Channel 2	Supports the Audio speaker

Chapter 4 Interrupts

Interrupt	Function
IRQ 0	Systerm Timer
IRQ 1	Keyboard
IRQ 2	Default For Sound chip
IRQ 3	COM2 (SIR/MIR/FIR)
IRQ 4	COM1
IRQ 5	Reserved
IRQ 6	Floppy Disk
IRQ 7	Reserved
IRQ 8	Clock/Calendar
IRQ 9	Cascaded to INT 0AH(IRQ 2) / Sound
IRQ10	PCMCIA Socket Service
IRQ11	Reserved
IRQ12	Touch-Pad
IRQ13	Coprocessor
IRQ14	Fixed Disk Controller
IRQ15	IDE CD-ROM

Note:

1.IRQ3,4,5,7,9,10,11,12,14,15 are connected to PCMCIA controller, but available for PCMCIA function only when the IRQ is not used by other device.

2.IRQs connected to Modem Card are IRQ3,4,5,7.

Chapter 4 Interrupts

Interrupt	Function
IRQ 0	System Timer
IRQ 1	Keyboard
IRQ 2	Default For Sound chip
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IRQ 7	Reserved
IRQ 8	Clock/Calenda-
IRQ 9	Cascaded to INT 0A(IRQ 2) / Sound
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IRQ13	Coprocessor
IRQ14	Fixed Disk Controller
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Note:

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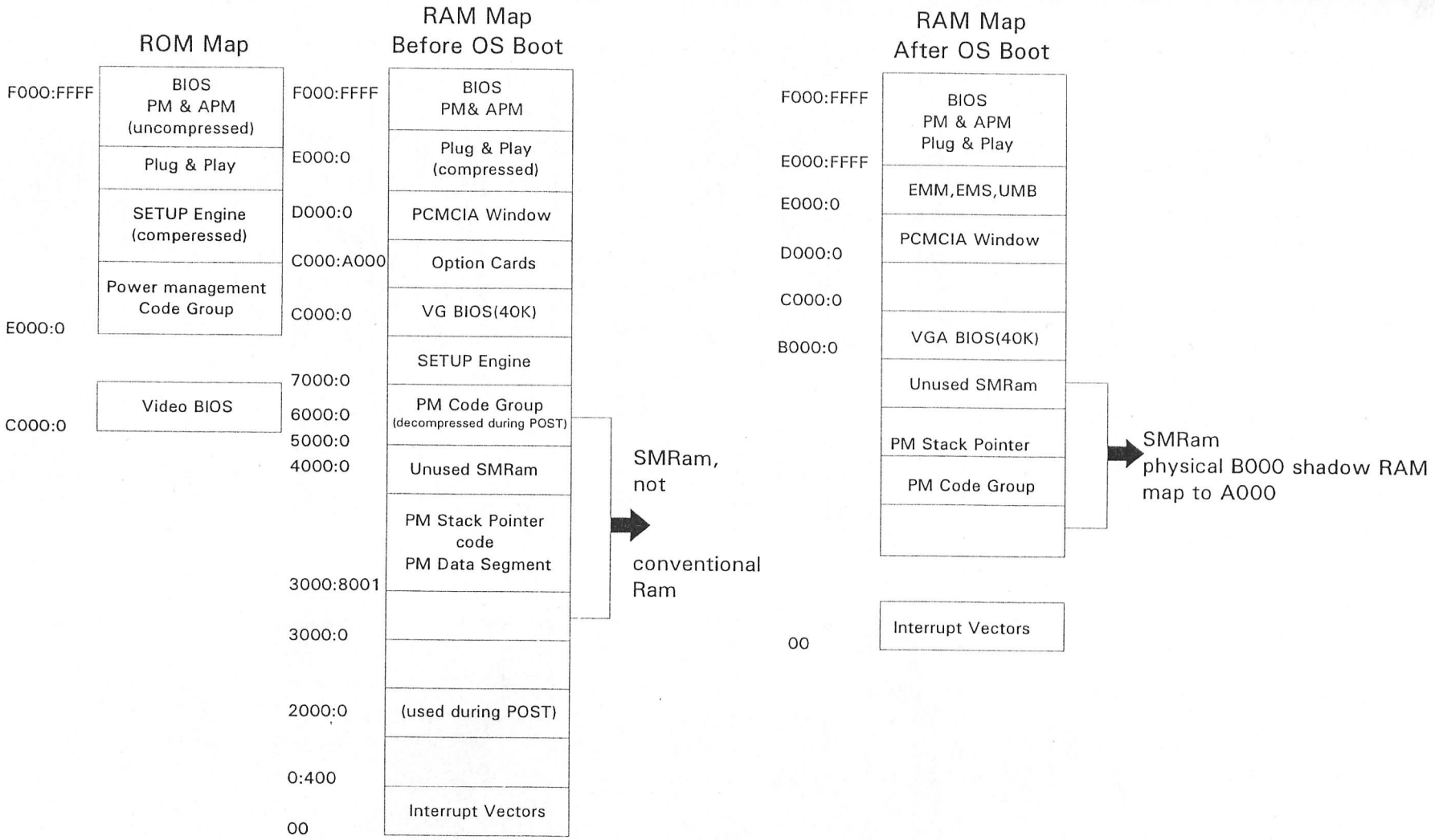

ROM Map
F000:FFFF
BIOS
PM & APM
(uncompressed)
Plug & Play
SETUP Engine
(comperessed)
Power management
Code Group
E000:0
C000:0
Video BIOS
RAM Map
Before OS Boot
F000:FFFF
BIOS
PM& APM
E000:0
Plug & Play
(compressed)
D000:0
PCMCIA Window
C000:A000
Option Cards
C000:0
VG BIOS(40K)
SETUP Engine
7000:0
6000:0
PM Code Group
(decompressed during POST)
5000:0
4000:0
Unused SMRam
PM Stack Pointer
code
PM Data Segment
3000:8001
3000:0
2000:0
(used during POST)
0:400
Interrupt Vectors
00
SMRam,
not
conventional
Ram
RAM Map
After OS Boot
F000:FFFF
BIOS
PM & APM
Plug & Play
E000:FFFF
E000:0
EMM,EMS,UMB
PCMCIA Window
D000:0
C000:0
B000:0
VGA BIOS(40K)
Unused SMRam
PM Stack Pointer
PM Code Group
Interrupt Vectors
00
SMRam
physical B000 shadow RAM
map to A000

Chapter 6 I/O Address Mapping

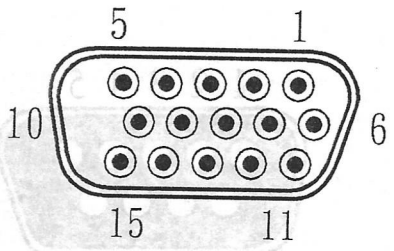
Hexadecimal Range	Devices	Usage
000-01F	DMA conntroller I	System
020-03F	Interrupt controller I	System
040-05F	Timer	System
060-06F	Keyboard I/O	System
070-07F	Real time clock, NMI mask	System
080-09F	DMA page register	System
0A0-0BF	Interrupt controller 2	System
0C0-0DF	DMA Conntroller 2	System
0F0	Clear math coprocessor busy	System
0F1	Reset math coprocessor	System
0F8-OFF	Math coprocessor	System
1FO-1F8	Fixed disk	I/O
200-207	Game	I/O
220-22F	Default for Sound	I/O
278-27F	Parallel printer port2	I/O
2F8-2FF	Serial port2	I/O
300-31F	Default for Wave Table	I/O
360-36F	Reserved	I/O
378-37F	Parallel printer port1	I/O
388-38B	Default for Sound	I/O
3BC-3BF	Parallel printer port3	I/O
3EO-3E1	PCMCIA controller	I/O
3C0-3CF	Reserved	I/O
3F8-3FF	Serial port 1	I/O

Chapter 6 I/O Address Mapping

Hexadecimal Range	Devices	Usage
000-01F	DMA controller 1	System
020-03F	Interrupt controller 1	System
040-05F	Timer	System
060-06F	Keyboard I/O	System
070-07F	Real time clock, NMI mask	System
080-08F	DMA page register	System
0A0-0BF	Interrupt controller 2	System
0C0-0DF	DMA Controller 2	System
0F0	Clear math coprocessor busy	System
0F1	Reset math coprocessor	System
0F8-0FF	Math coprocessor	System
1F0-1F8	Fixed disk	I/O
200-207	Game	I/O
220-22F	Default for Sound	I/O
278-27F	Parallel printer port2	I/O
2F8-2FF	Serial port2	I/O
300-31F	Default for Wave Table	I/O
360-36F	Reserved	I/O
378-37F	Parallel printer port1	I/O
388-38B	Default for Sound	I/O
3BC-3BF	Parallel printer port3	I/O
3E0-3E1	PCMCIA controller	I/O
3C0-3CF	Reserved	I/O
3F8-3FF	Serial port1	I/O

Chapter 7 Connector & Assignment

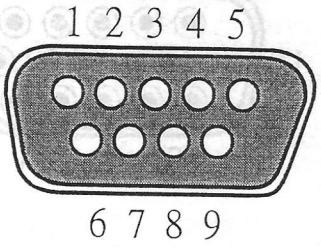
The Pin Assignment of Video Port



Pin	Signal	Pin	Signal
1	Red	9	Vcc
2	Green	10	Ground
3	Blue	11	MSO
4	MS2	12	DDC2BD
5	Ground	13	Horizontal Sync
6	Ground	14	Vertical Sync
7	Ground	15	DDC2BC
8	Ground		

Chapter 7 Connector & Assignment

The Pin Assignment of Serial Port



Pin	Signal	Pin	Signal
1	Carrier	6	Data Set Ready
2	Receive Data	7	Request to Send
3	Transmit Data	8	Clear to Send
4	Data Terminal Ready	9	Ring Indicate
5	Signal Ground		

Chapter 8 INF Function

The following lists the available interrupt services made through the system BIOS. For detailed information about each function, refer to any one of the many books on interrupts.

INT	Type	Function
02	Logical	Nonmaskable Interrupt
05h	Software	Print Screen
08h	Hardware	System Timer
09h	Hardware	Keyboard
0Ah	Hardware	Slave PIC Redirect
0Eh	Hardware	Diskette
10h	Software	Video

AH Value	Function
00h	Set video mode
01h	Set cursor type
02h	Set cursor position
03h	Read current cursor position
04h	Not supported
05h	Select new video page
06h	Scroll current page up
07h	Scroll current page down
08h	Read character/Attribute to screen
09h	Write character/attribute from screen
0Ah	Write character only to screen
0Bh	Set color palette
0Ch	Write pixel
0Dh	Read pixel
0Eh	Write teletype to active page
0Fh	Return video status
10h-12h not supported	
13h	Write String

14h-ffh
reserved

11h	Software	Equipment List
12h	Software	Memory Size
13h	Software	Diskette Service (Interrupt 40h)

AH Value	Function
00h	Reset diskette system
01h	Read diskette status
02h	Read diskette sectors
03h	Write diskette sectors
04h	Verify diskette sectors
05h	Format diskette track
06h,07h	Reserved
08h	Read drive parameters
09h-14h	
reserved	
15h	Read drive type
16h	Detect media change
17h	Set diskette type
18h	Set media type for format
19h-FFh	
reserved	

13h Software Hard disk services

AH Value	Function
00h	Reset disk system
01h	Read disk status
02h	Read disk sectors
03h	Write disk sectors
04h	Verify disk sectors
05h	Format disk cylinder
06h,07h	Reserved
08h	Read drive parameters
09h	Initialize drive parameters
0Ah	Read long disk sectors
0Bh	write long disk sectors

		0Ch	Seek to cylinder
		0Dh	Alternate reset fixed disk
		0Eh	Diagnostics 1, read test buffer
		0Fh	Diagnostics 2, write test buffer`
		10h	Test for drive ready
		11h	Recalibrate drive
		12h-14h reserved	
		15h	Read disk type
		16h-18h reserved	
		19h, 1Ah	Not supported
		1Bh-FFh	Reserved
14h	Software	Serial Communication	
		AH Value	Function
		00h	Initialize serial communication port
		01h	Send character
		02h	Receive character
		03h	Read serial port status
		04h-FFh reserved	
15h	Software	System Services	
		AH Value	Function
		00h-4Eh reserved	
		4Fh	Keyboard intercept
		50h-7Fh reserved	
		80h	Device open
		81h	Device close
		82h	Program termination
		83h	Set event wait interval
		84h	Joystick support
		85h	System request key
		86h	Wait

		87h	Move block
		88h	Read extended memory size
		89h	Switch processor to protecte mode
		8Ah-8Fh	Reserved
		90h	Device busy loop
		91h	Interrupt complete
		92h-BFh	Reserved
		C0h	Return system configuration parameters
		C1h	Return extended BIOS data ar segment address
		C2h	Pointing device interface
		C3h-FFh	Reserved
16h	Software	Keyboard	
		AH Value	Function
		00h	Read keyboard input
		01h	Return keyboard status
		02h	Return shift flag status
		03h	Set typematic rate and delay
		04h	Reserved
		05h	Store key data
		06h-0Fh reserved	
		10h	Read extended key input
		11h	Return extended keyboard stat
		12h	Return extended shift flags status
		13h-FFh reserved	
17h	Software	Parallel Printer	
		AH Value	Function
		00h	Print character
		01h	Initialize printer
		02h	Read printer status
		03h-FFh reserved	

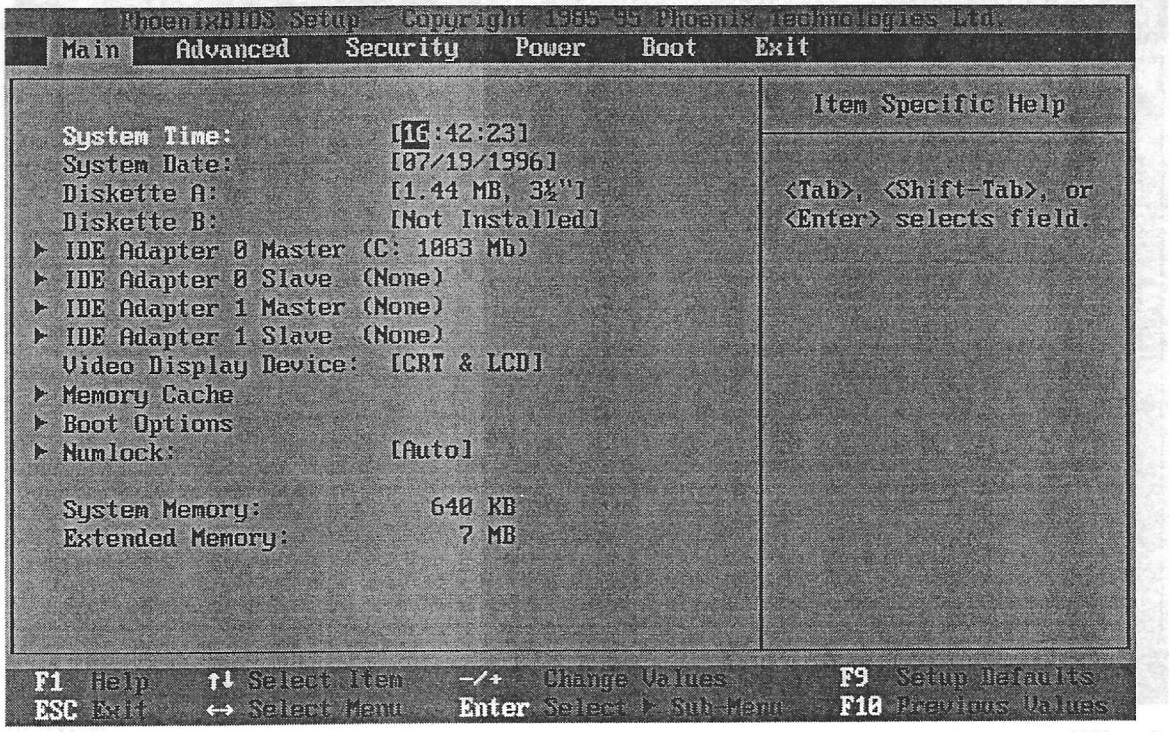
18h	Software	Load ROM BASIC
19h	Software	Bootstrap Loader
1Ah	Software	System Timer and Real-Time Clock

AH Value	Function
00h	Read system timer time counter
01h	Set system timer time counter
02h	Read real time clock time
03h	Set real time clock time
04h	Read real time clock date
05h	Set real time clock date
06h	Reserved
07h	Set real time clock alarm
08h	Read day of week from real time clock(SystmeSoft only)
09h	Write day of week to real time clock(SystemSoft only)
0Ah-FFh	Reserved

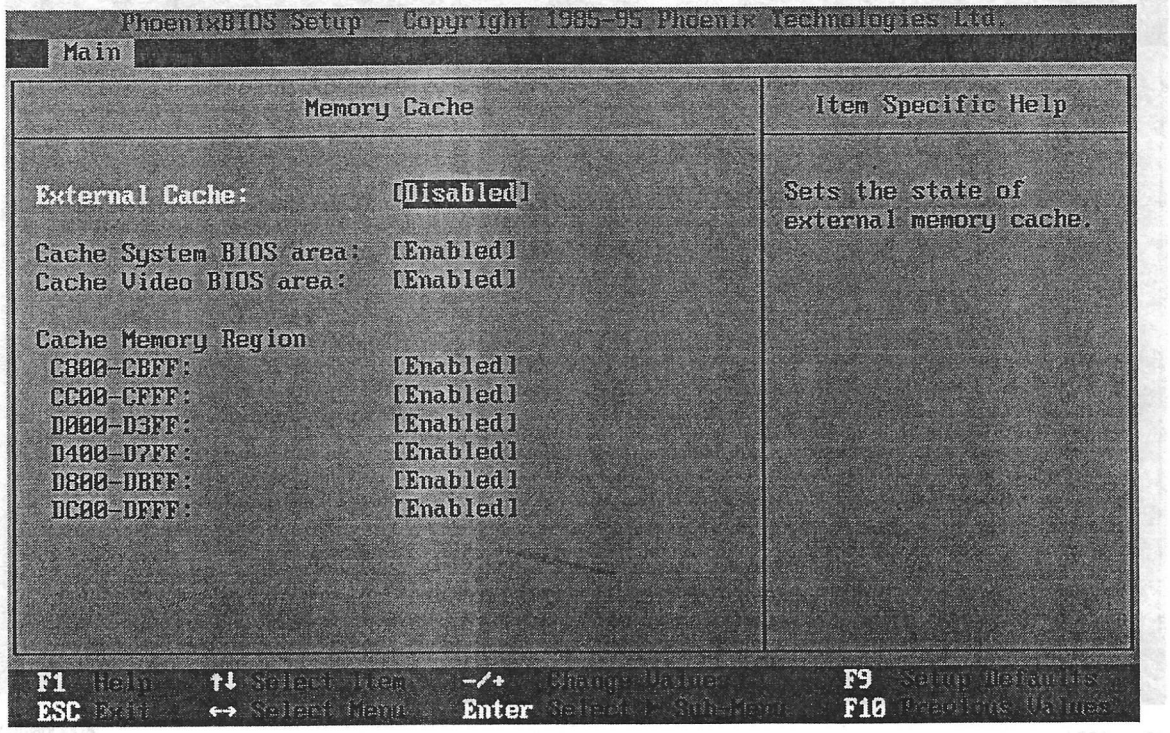
1Bh	Software	Keyboard Break
1Ch	User	User timer tick
1Dh	BIOS table	Video parameters table
1Eh	BIOS table	Diskette parameters table
1Fh	User	Video graphics characters
40h	Software	diskette BIOS receptor
41h	BIOS table	Fixed disk parameter table
46h	BIOS table	Fixed disk parameter table
70h	Hardware	Real time clock
71h	Hardware	Redirect cascade
74h	Hardware	Pointing device(Mouse)
76h	Hardware	fixed disk

+ Any 80386 and/or coprocessor exception interrupts normally handled by the operating system are vectored by default to the BIOS at system power-on.

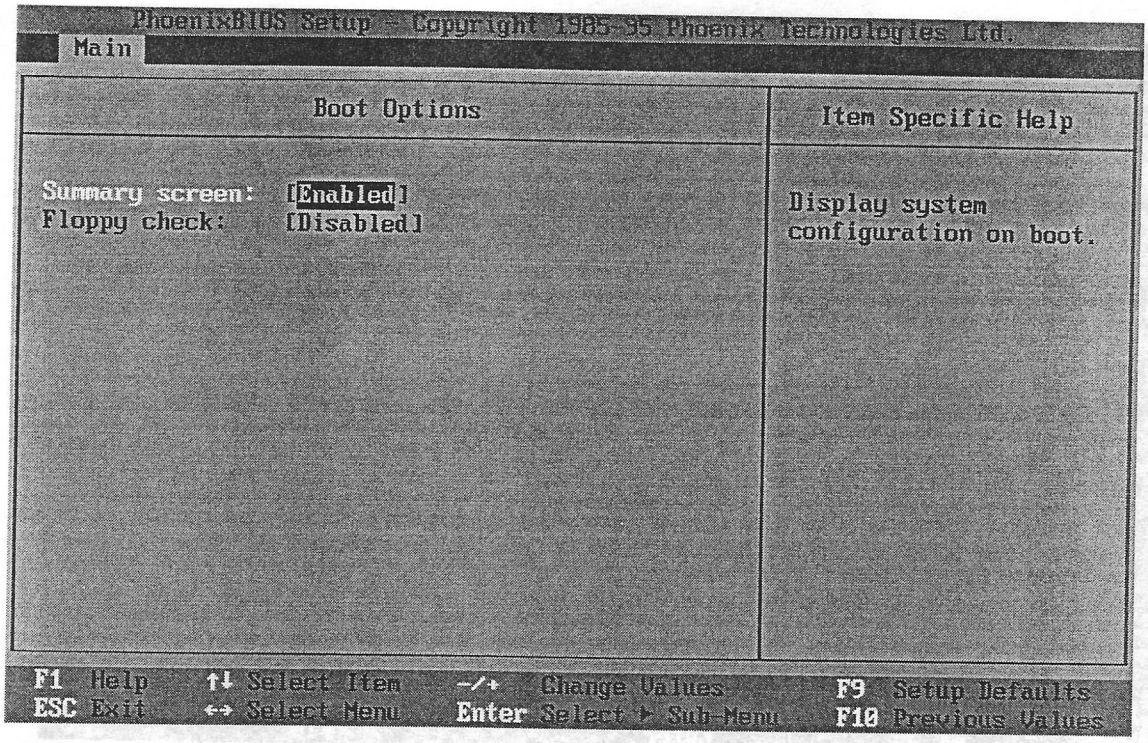
Chapter 9 BIOS Setup


PhoenixBIOS Setup - Copyright 1985-95 Phoenix Technologies Ltd.
Main Advanced Security Power Boot Exit
Item Specific Help
System Time: [16:42:23]
System Date: [07/19/1996]
Diskette A: [1.44 MB, 3½"]
Diskette B: [Not Installed]
IDE Adapter 0 Master (C: 1083 Mb)
IDE Adapter 0 Slave (None)
IDE Adapter 1 Master (None)
IDE Adapter 1 Slave (None)
Video Display Device: [CRT & LCD]
Memory Cache
Boot Options
Numlock: [Auto]
System Memory: 640 KB
Extended Memory: 7 MB
<Tab>, <Shift-Tab>, or <Enter> selects field.
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Previous Values

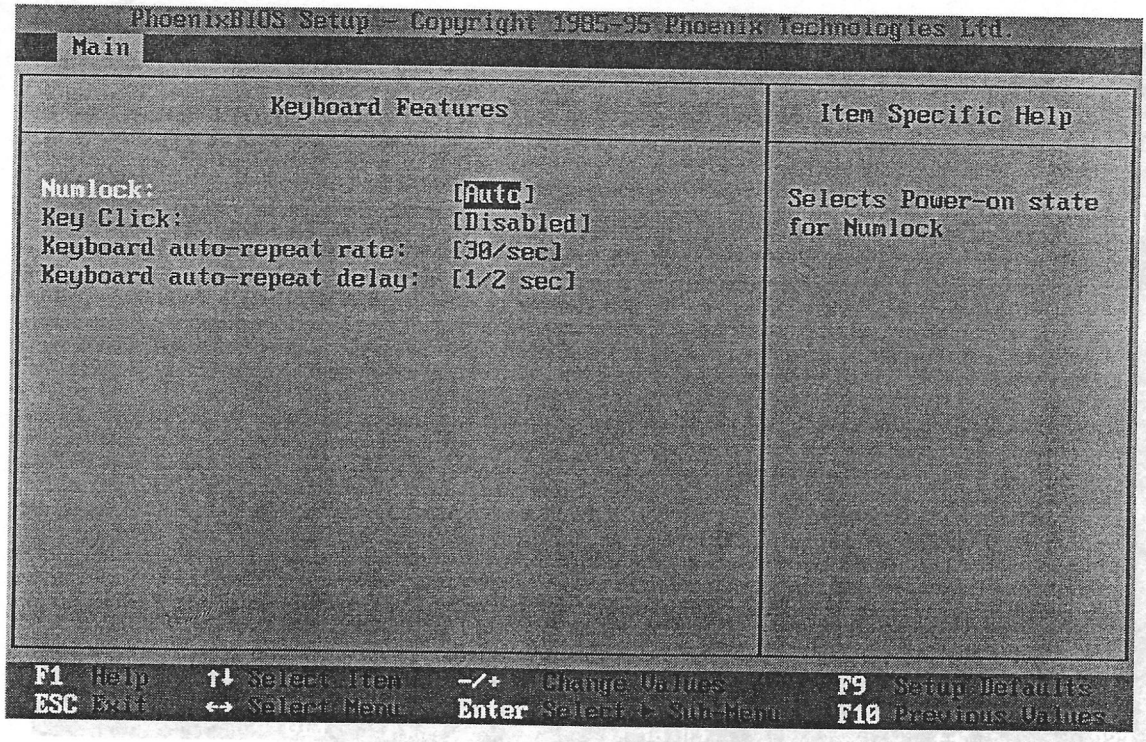
/Dump0000


PhoenixBIOS Setup - Copyright 1985-95 Phoenix Technologies Ltd.
Main
Memory Cache
Item Specific Help
External Cache: [Disabled]
Cache System BIOS area: [Enabled]
Cache Video BIOS area: [Enabled]
Cache Memory Region
C800-CBFF: [Enabled]
CC00-CFFF: [Enabled]
D000-D3FF: [Enabled]
D400-D7FF: [Enabled]
D800-DBFF: [Enabled]
DC00-DFFF: [Enabled]
Sets the state of external memory cache.
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Previous Values

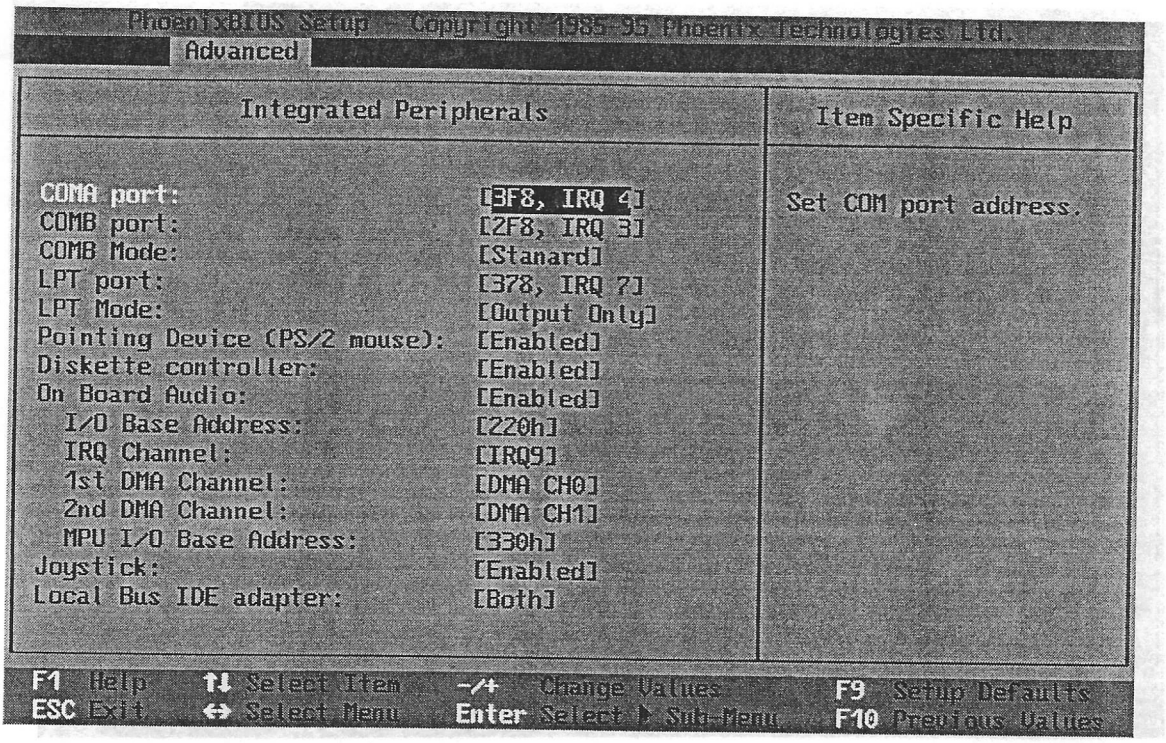
/Dump0002


PhoenixBIOS Setup - Copyright 1985-95 Phoenix Technologies Ltd.
Main
Boot Options
Item Specific Help
Summary screen: [Enabled]
Floppy check: [Disabled]
Display system configuration on boot.
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Previous Values

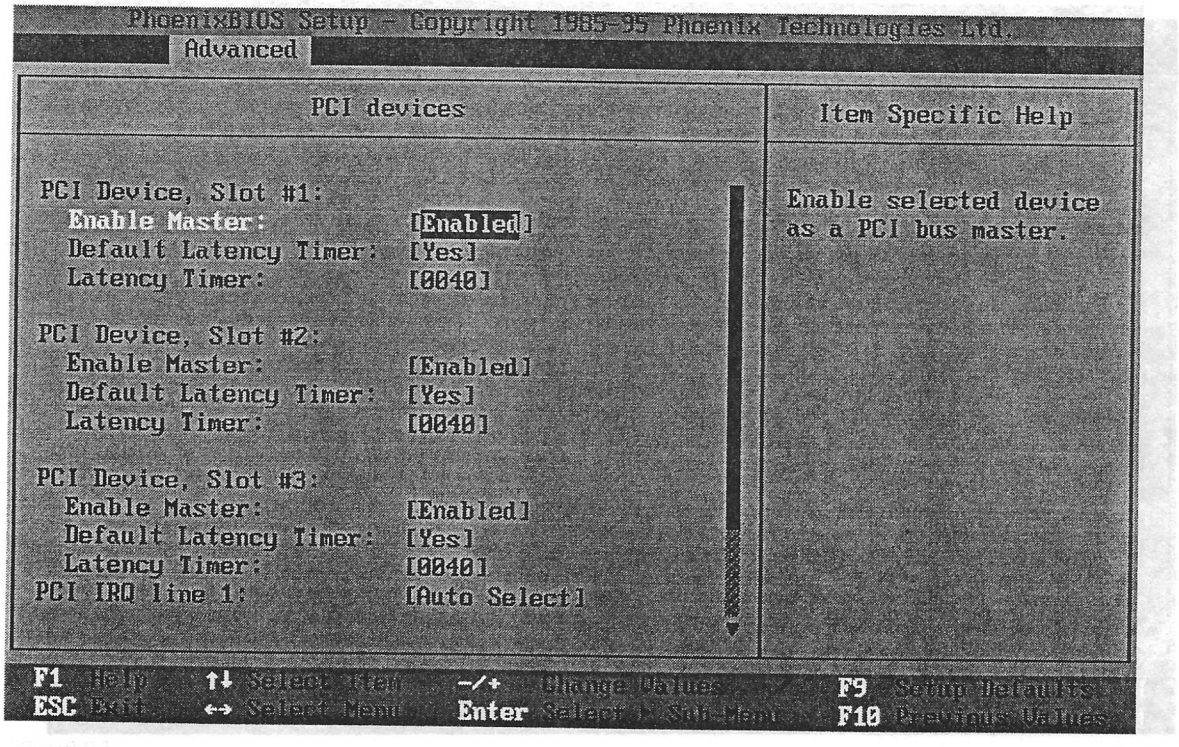
/Dump0003


PhoenixBIOS Setup - Copyright 1985-95 Phoenix Technologies Ltd.
Main
Keyboard Features
Item Specific Help
Numlock: [Auto]
Key Click: [Disabled]
Keyboard auto-repeat rate: [30/sec]
Keyboard auto-repeat delay: [1/2 sec]
Selects Power-on state for Numlock
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Previous Values

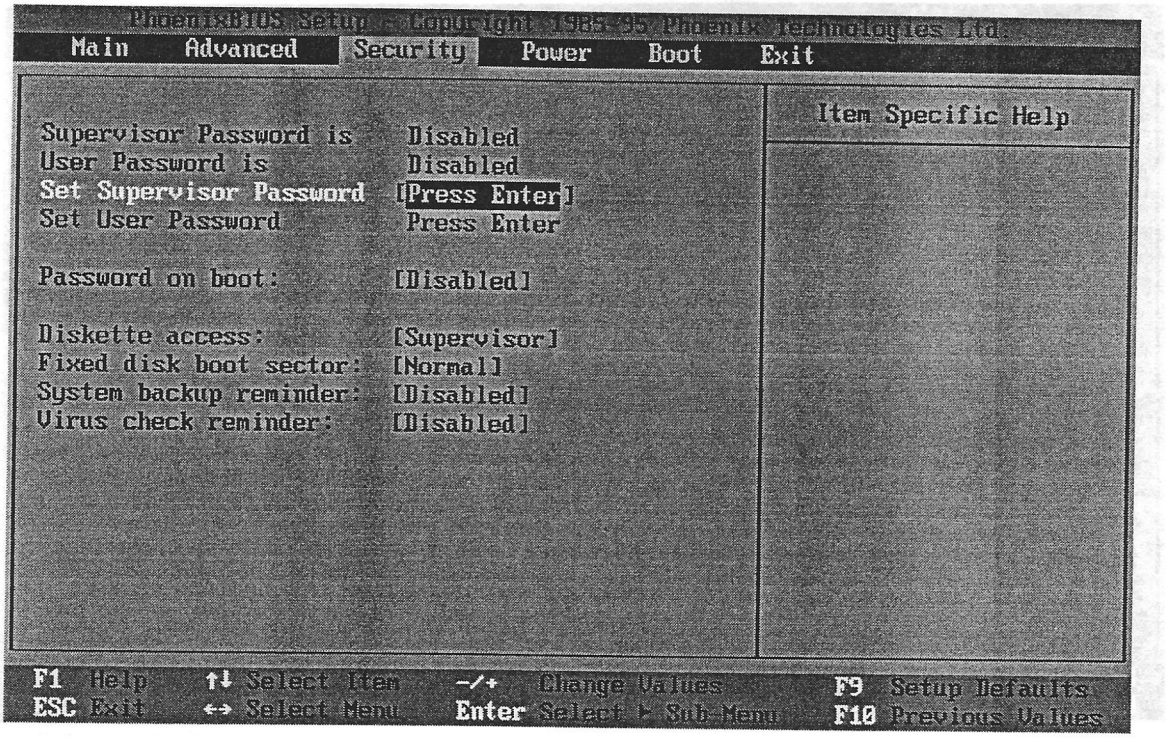
/Dump0004


PhoenixBIOS Setup - Copyright 1985-95 Phoenix Technologies Ltd.
Advanced
Integrated Peripherals
COMA port: [3F8, IRQ 4]
COMB port: [2F8, IRQ 3]
COMB Mode: [Stanard]
LPT port: [378, IRQ 7]
LPT Mode: [Output Only]
Pointing Device (PS/2 mouse): [Enabled]
Diskette controller: [Enabled]
On Board Audio: [Enabled]
I/O Base Address: [220h]
IRQ Channel: [IRQ9]
1st DMA Channel: [DMA CH0]
2nd DMA Channel: [DMA CH1]
MPU I/O Base Address: [330h]
Joystick: [Enabled]
Local Bus IDE adapter: [Both]
Item Specific Help
Set COM1 port address.
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Previous Values

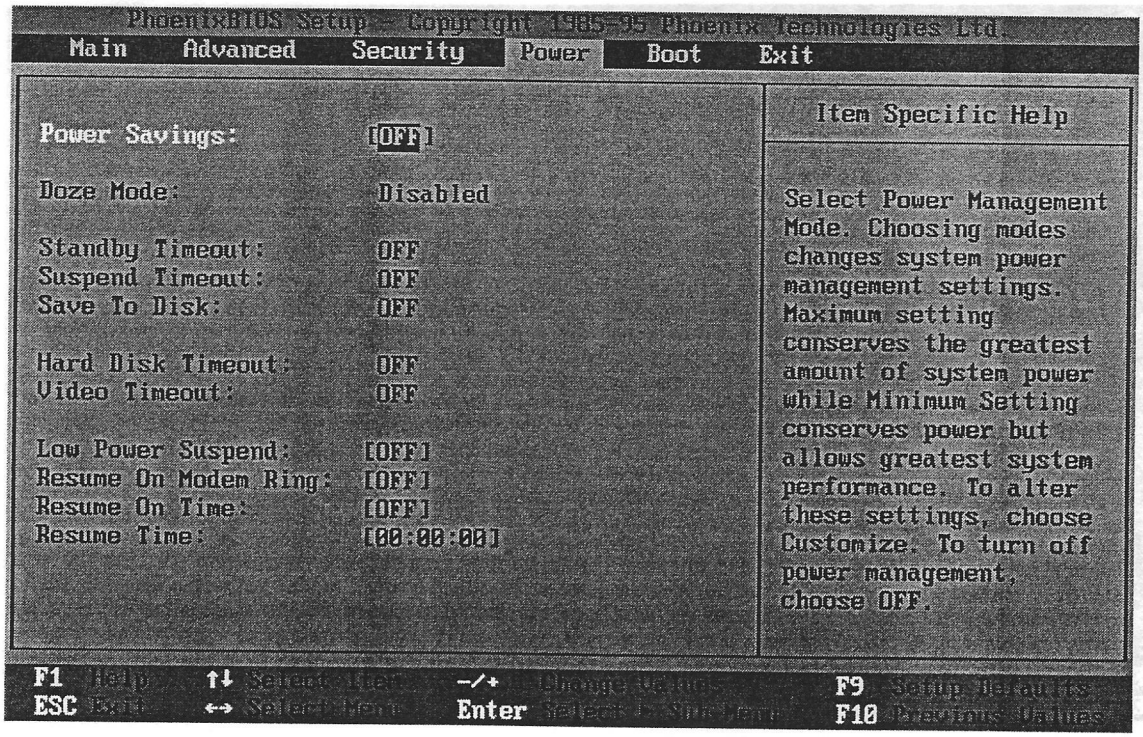
/Dump0006


PhoenixBIOS Setup - Copyright 1985-95 Phoenix Technologies Ltd.
Advanced
PCI devices
PCI Device, Slot #1:
Enable Master: [Enabled]
Default Latency Timer: [Yes]
Latency Timer: [0040]
PCI Device, Slot #2:
Enable Master: [Enabled]
Default Latency Timer: [Yes]
Latency Timer: [0040]
PCI Device, Slot #3:
Enable Master: [Enabled]
Default Latency Timer: [Yes]
Latency Timer: [0040]
PCI IRQ line 1: [Auto Select]
Item Specific Help
Enable selected device as a PCI bus master.
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Previous Values

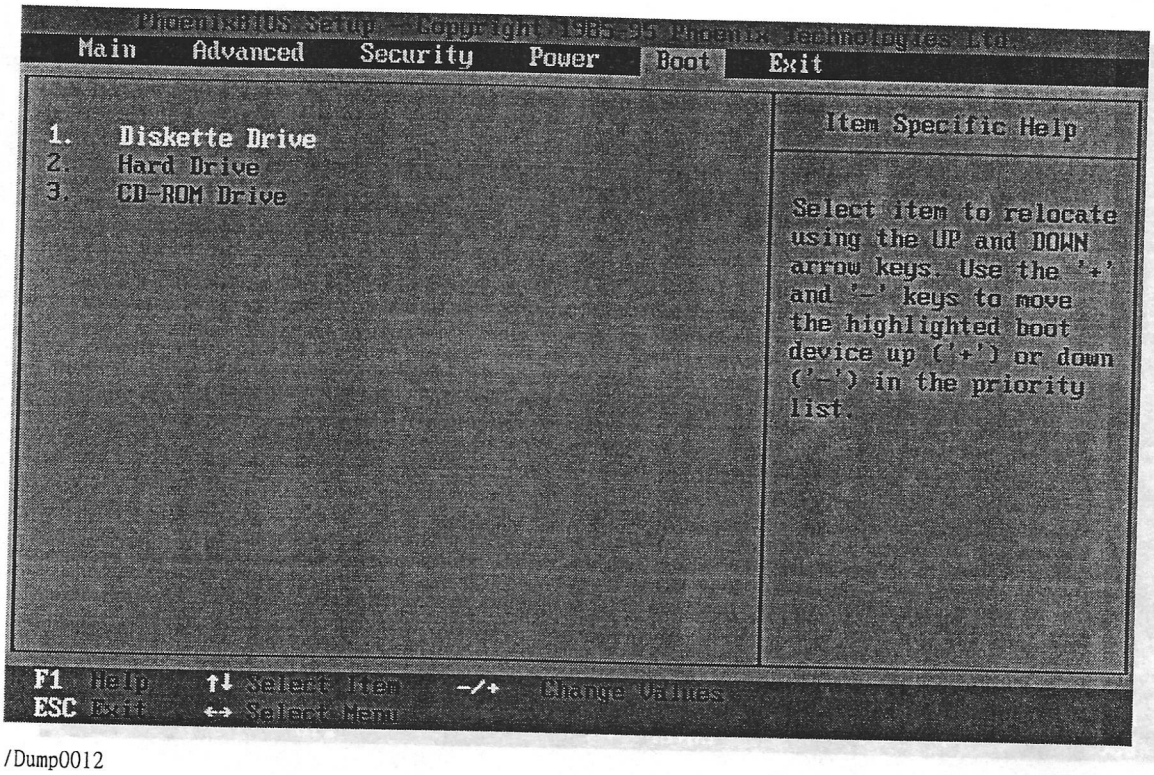
/Dump0008


PhoenixBIOS Setup - Copyright 1985-95 Phoenix Technologies Ltd.
Main Advanced Security Power Boot Exit
Item Specific Help
Supervisor Password is Disabled
User Password is Disabled
Set Supervisor Password [Press Enter]
Set User Password Press Enter
Password on boot: [Disabled]
Diskette access: [Supervisor]
Fixed disk boot sector: [Normal]
System backup reminder: [Disabled]
Virus check reminder: [Disabled]
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults
ESC Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Previous Values

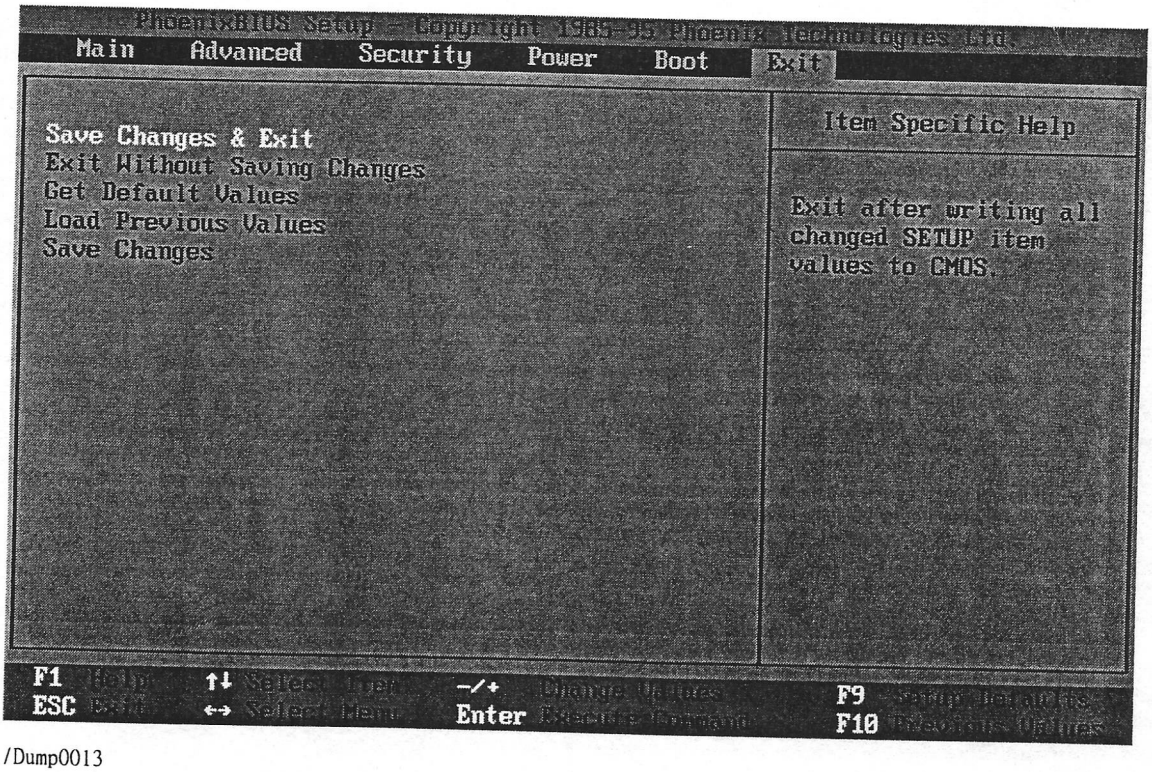
/Dump0009


PhoenixBIOS Setup - Copyright 1985-95 Phoenix Technologies Ltd.
Main Advanced Security Power Boot Exit
Item Specific Help
Power Savings: [OFF]
Doze Mode: Disabled
Standby Timeout: OFF
Suspend Timeout: OFF
Save To Disk: OFF
Hard Disk Timeout: OFF
Video Timeout: OFF
Low Power Suspend: [OFF]
Resume On Modem Ring: [OFF]
Resume On Time: [OFF]
Resume Time: [00:00:00]
Select Power Management Mode. Choosing modes changes system power management settings. Maximum setting conserves the greatest amount of system power while Minimum Setting conserves power but allows greatest system performance. To alter these settings, choose Customize. To turn off power management, choose OFF.
F1 Help ↑↓ -/+ F9
ESC ↔ Enter F10

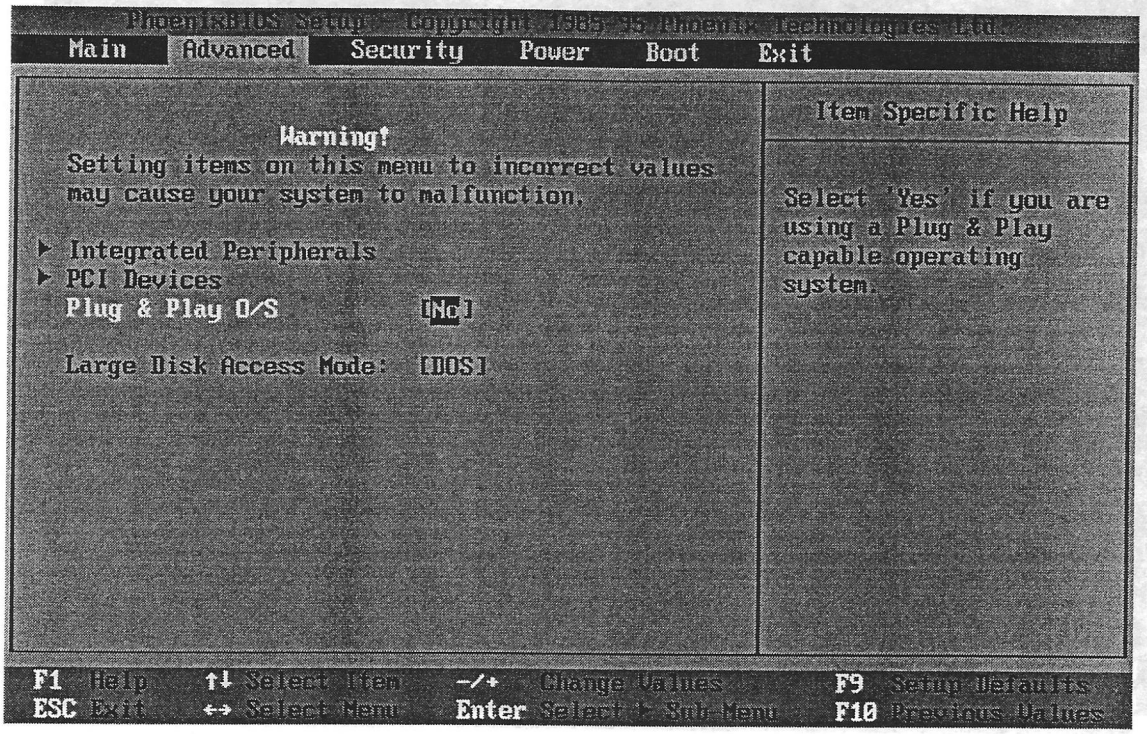
/Dump0010


Main Advanced Security Power Boot Exit
1. Diskette Drive
2. Hard Drive
3. CD-ROM Drive
Item Specific Help
Select item to relocate using the UP and DOWN arrow keys. Use the '+' and '-' keys to move the highlighted boot device up ('+') or down ('-') in the priority list.
F1 Help ↑↓ Select Item -/+ Change Values
ESC Exit ↔ Select Menu

/Dump0012



/Dump0013


Main
Advanced
Security
Power
Boot
Exit
Warning!
Setting items on this menu to incorrect values may cause your system to malfunction.
Integrated Peripherals
PCI Devices
Plug & Play O/S [No]
Large Disk Access Mode: [DOS]
Item Specific Help
Select 'Yes' if you are using a Plug & Play capable operating system.
F1 Help
ESC Exit
↑↓ Select Item
↔ Select Menu
-/+ Change Values
Enter Select ▸ Sub-Menu
F9 Setup Defaults
F10 Previous Values

/Dump0015

POST Errors

A. Recoverable POST Errors

Whenever a recoverable error occurs during POST, *PhoenixBIOS* displays an error message describing the problem.

PhoenixBIOS also issues a beep code (one long tone followed by two short tones) during POST if the video configuration fails (no card installed or faulty) or if an external ROM module does not properly checksum to zero.

An external ROM module (e.g. VGA) can also issue audible errors, usually consisting of one long tone followed by a series of short tones.

B. Terminal POST Errors

There are several POST routines that issue a POST Terminal Error and shut down the system if they fail. Before shutting down the system, the terminal-error handler issues a beep code signifying the test point error, writes the error to port 80h, attempts to initialize the video, and writes the error in the upper left corner of the screen (using both mono and color adapters).

The routine derives the beep code from the test point error as follows:

1. The 8-bit error code is broken down to four 2-bit groups.
2. Each group is made one-based (1 through 4) by adding 1.
3. Short beeps are generated for the number in each group.

Example:

Testpoint 01Ah = 00 01 10 10 = 1-2-3-3 beeps

If the BIOS detects error 2C, 2E, or 30 (base 512k RAM error), it displays an additional word of information reflecting the bit or address line that failed. For example, if "2C 0002" is displayed, address line 1 (represented by bit one) has failed. If "2E 1020" is displayed, then data bits 12 and 5 have failed in the upper 16 bits.

BIOS sends the same information to the port-80 LED display (See below). The check point code is followed by a delay, the high order byte, another delay, and then the low order byte of the error. This

C. Test Points and Beep Codes

At the beginning of each POST routine, the BIOS outputs the test point error code to I/O address 80h. Use this code during trouble shooting to establish at what point the system failed and what routine was being performed.

Some motherboards are equipped with a seven-segment LED display that displays the current value of port 80h. For production boards which do not contain the LED display, you can purchase a card that performs the same function.

If the BIOS detects a terminal error condition, it halts POST after issuing a terminal error beep code (See above) and attempting to display the error code on upper left corner of the screen and on the port 80h LED display. It attempts repeatedly to write the error to the screen. This may cause "hash" on some CGA displays.

If the system hangs before the BIOS can process the error, the value displayed at the port 80h is the last test performed. In this case, the screen does not display the error code.

The following is a list of the checkpoint codes written at the start of each test and the beep codes issued for terminal errors:

Code	Beeps	POST Routine Description
02		Verify Real Mode
04		Get CPU type
06		Initialize system hardware
08		Initialize chipset registers with initial POST values
09		Set in POST flag
0A		Initialize CPU registers
0C		Initialize cache to initial POST values

0E		Initialize I/O
0F		Initialize the local bus IDE
10		Initialize Power Management
11		Load alternate registers with initial POST valuesnew
12		Jump to UserPatch0
14		Initialize keyboard controller
16	2-2-3	BIOS ROM checksum
18		8254 timer initialization
1A		8237 DMA controller initialization
1C		Reset Programmable Interrupt Controller
20	3-1-1	Test DRAM refresh
22	3-1-3	Test 8742 Keyboard Controller
24		Set ES segment register to 4 GB
28		Autosize DRAM
2A		Clear 512K base RAM
2C	3-4-1	Test 512K base address lines
2E	3-4-3	Test 512K base memory
32		Test CPU bus-clock frequency
34		Test CMOS RAM
35		Initialize other hardware devices.
37		Reinitialize the chipset (MB only)
38		Shadow system BIOS ROM

5C		Test RAM between 512 and 640k
60		Test extended memory
62		Test extended memory address lines
64		Jump to UserPatch1
66		Configure advanced cache registers
68		Enable external and CPU caches
6A		Display external cache size
6C		Display shadow message
6E		Display non-disposable segments
70		Display error messages
72		Check for configuration errors
74		Test real-time clock
76		Check for keyboard errors
7C		Set up hardware interrupt vectors
7E		Test coprocessor if present
80		Disable onboard I/O ports.
82		Detect and install external RS232 ports
84		Detect and install external parallel ports
86		Re-initialize onboard I/O ports.
88		Initialize BIOS Data Area
8A		Initialize Extended BIOS Data Area
8C		Initialize floppy controller
90		Initialize hard-disk drives

39		Reinitialize the cache (MB only)
3A		Autosize cache
3C		Configure advanced chipset registers
3D		Load alternate registers with CMOS valuesnew
40		Set Initial CPU speed new
42		Initialize interrupt vectors
44		Initialize BIOS interrupts
46	2-1-2-3	Check ROM copyright notice
47		Initialize manager for PCI Option ROMs
48		Check video configuration against CMOS
49		Initialize PCI bus and devices
4A		Initialize all video adapters in system
4C		Shadow video BIOS ROM
4E		Display copyright notice
50		Display CPU type and speed
51		Initialize EISA slots
52		Test keyboard
54		Set key click if enabled
56		Enable keyboard
58	2-2-3-1	Test for unexpected interrupts
5A		Display prompt "Press F2 to enter SETUP"

91		Local-bus IDE timing
92		Jump to UserPatch2
93		Build MPTABLE for multi-processor boards
94		Disable A20 address line
96		Clear huge ES segment register
98		Search for option ROMs
9A		Shadow option ROMs
9C		Set up Power Management
9E		Enable hardware interrupts
A0		Set time of day
A2		Check key lock
A4		Initialize typematic rate
A8		Erase F2 prompt
AA		Scan for F2 key stroke
AC		Enter SETUP
AE		Clear in-POST flag
B0		Check for errors
B2		POST done - prepare to boot operating system
B4		One beep
B6		Check password (optional)
B8		Clear global descriptor table
BC		Clear parity checkers

BE		Clear screen (optional)
BF		Check virus and backup reminders
C0		Try to boot with INT 19
DO		Interrupt handler error
D2		Unknown interrupt error
D4		Pending interrupt error
D6		Initialize option ROM error
D8		Shutdown error
DA		Extended Block Move
DC		Shutdown 10 error
		The following are for boot block in Flash ROM
E2		Initialize the chipset
E3		Initialize refresh counter
E4		Check for Forced Flash
E5		Check HW status of ROM
E6		BIOS ROM is OK
E7		Do a complete RAM test
E8		Do OEM initialization
E9		Initialize interrupt controller
EA		Read in the bootstrap code
EB		Initialize all vectors
EC		Boot the Flash program
ED		Initialize the boot device
EE		Boot code was read OK

D. PhoenixBIOS Messages

nnnn Cache SRAM Passed
Diskette drive A error
Diskette drive B error
Entering SETUP...
Extended RAM Failed at offset: *nnnn* *
Extended RAM Passed
Failing Bits: *nnnn* *
Fixed Disk 0 Failure
Fixed Disk 1 Failure
Fixed Disk Controller Failure *
Incorrect Drive A type - run SETUP
Incorrect Drive B type - run SETUP
Invalid NVRAM media type *
Keyboard controller error *
Keyboard error
Keyboard locked - Unlocked key switch
Monitor type does not match CMOS - Run SETUP
Operating system not found
Parity Check 1 nnnn *
Parity Check 2 nnnn *
Press <F1> to resume, <F2> to Setup
Press <F2> to enter SETUP
Real time clock error *
Shadow Ram Failed at offset: *nnnn* *
nnnn Shadow RAM Passed
System battery is dead - Replace and run SETUP
System BIOS shadowed
System cache error - Cache disabled *
System CMOS checksum bad - run SETUP
System RAM Failed at offset: *nnnn* *
nnnn System RAM Passed
System timer error *
UMB upper limit segment address: *nnnn*
Video BIOS shadowed

* If your system displays this message, write down the message and contact your dealer.
If your system fails after you made changes in the Setup menus, you may be able to correct the the problem by entering Setup and restoring the original values.
The following is an explanation of each of the messages listed above.

nnnn Cache SRAM Passed Where *nnnn* is the amount of system cache in kilobytes successfully tested.

Diskette drive A error or
Diskette drive B error Drive A: or B: is present but fails the BIOS POST diskette test. Check to see that the drive is defined with proper diskette type in Setup and that the diskette drive is attatched correctly.

Entering SETUP... Starting Setup program

Extended RAM Failed at offset: *nnnn* Extended memory not working or not configured properly at offset *nnnn*.

***nnnn* Extended RAM Passed** Where *nnnn* is the amount of RAM in kilobytes successfully tested.

Failing Bits: *nnnn* The hex number *nnnn* is a map of the bits at the RAM address (in System, Extended, or Shadow memory) which failed the memory test. Each 1 (one) in the map indicates a failed bit.

Fixed Disk 0 Failure or
Fixed Disk 1 Failure or
Fixed Disk Controller Failure Fixed disk is not working or not configured properly. Check to see if fixed disk is attached properly. Run Setup be sure tha fixed-disk type is correctly identified.

Incorrect Drive A type - run SETUP Type of floppy drive A: not correctly identified in Setup.

Incorrect Drive B type - run SETUP Type of floppy drive B: not correctly identified in Setup.

Invalid NVRAM media type Problem with NVRAM (CMOS) access.

Keyboard controller error The keyboard controller failed test. You may have to replace keyboard or controller.

Keyboard error Keyboard not working.

Keyboard error *nn* BIOS discovered a stuck key and displays the scan code **nn** for the stuck key.

Keyboard locked - Unlocked key switch Unlocked the system to proceed.

Monitor type does not match CMOS - Run SETUP Monitor type not correctly identified in Setup.

Operating system not found Operating system cannot be located on either drive A: or drive C:. Enter Setup and see if fixed disk and drive A: are porperly identified.

Parity Check 1 Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????

Parity Check 2 Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If if cannot locate the address, it displays ????

Press <F1> to resume, <F2> to Setup Displayed after any recoverable error messages. Press <F1> to start the boot process or <F2> to enter Setup and change any settings.

Press <F2> to enter SETUP Optional message displayed during POST. Can be turned off in Setup.

Previous boot incomplete - Default configuration used Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. On systems with control of wait states, improper Setup settings can also terminate POST and cause this error on the next boot. Run Setup and verify that wait-state configuration is correct. This error is cleared the next time the system is booted.

Real time clock error Real-time clock fails BIOS test. May require board repair.

Shadow Ram Failed at offset: *nnnn* Shadow RAM failed at offset ***nnnn*** of the 64k block at which the error was detected.

nnnn Shadow RAM Passed Where ***nnnn*** is the amount of shadow RAM in kilobytes successfully tested.

System battery is dead - Replace and run SETUP The CMOS clock battery indicator shows the battery is dead. Replace the battery and run Setup to reconfigure the system.

System BIOS shadowed System BIOS copied to shadow RAM.

Syatem cache error - Cache disabled RAM cache failed the BIOS test. BIOS disabled the cache.

System CMOS checksum bad -run SETUP System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. Run Setup and reconfigure the system either by getting the Default Values and/or making your own selections.

System RAM Failed at offset: *nnnn* System RAM failed at offset ***nnnn*** of in the 64k block at which the error was detected.

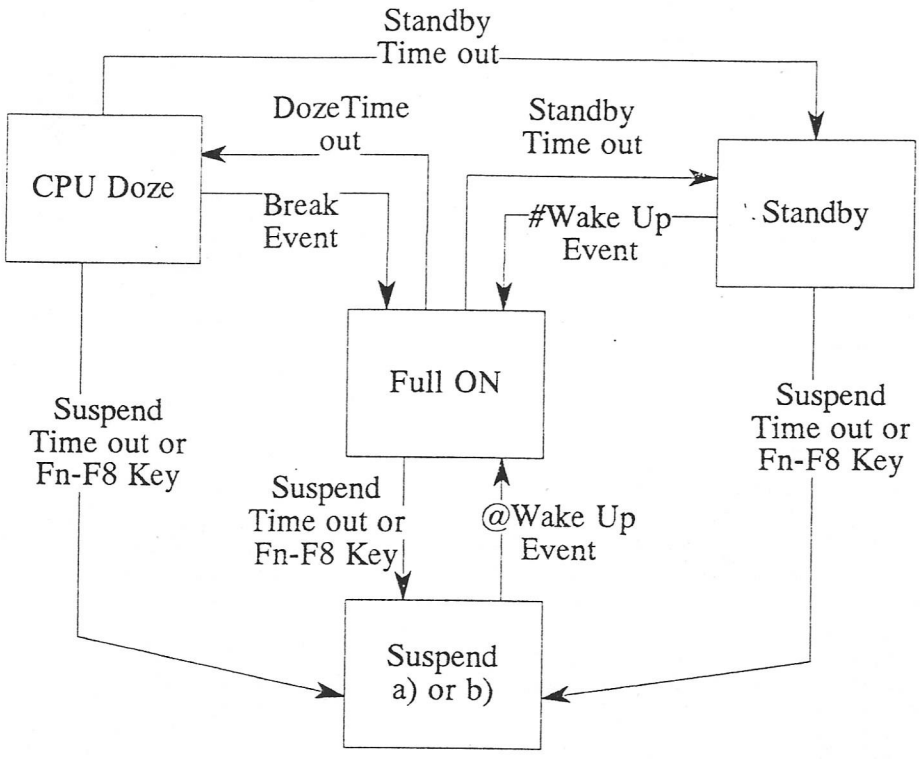
nnnn* System RAM Passed** Where ***nnnn is the amount of system RAM in kilobytes successfully tested.

System timer error The timer test failed. Requires repair of system board.

UMB upper limit segment address: *nnnn* Displays the address ***nnnn*** of the upper limit os Upper Memory Blocks, indicating released segments of the BIOS which may be reclaimed by a virtual memory manager.

Video BIOS shadowed Video BIOS successfully copied to shadow RAM.

Power Management
Mode Transfer Diagram



System Power management Mode
1) Doze Mode (CPU enter Stop Grant Cycle)
Break Event:
IRQ 0,1,3,4,5,6,7,9,10,11,12,14,15,SMI,NMI

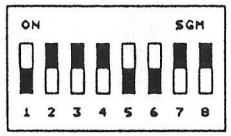
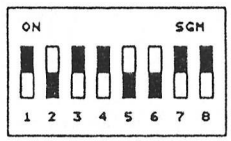
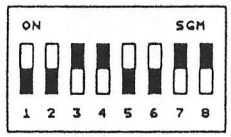
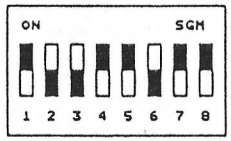
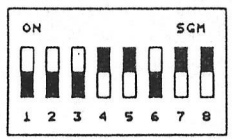
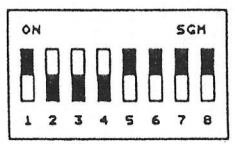
2) Standby Mode
(CPU enter Stop Grant, FDD,COM,HDD,SOUND,VIDEO enter Standby mode)
#System Event :
IRQ 1,3,4,5,6,7,9,10,11,12,14,15,NMI
WakeUp Event :
IRQ 1,3,4,8,12,SMI,COMRI

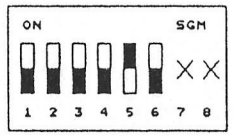
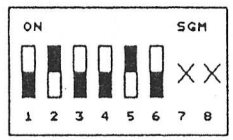
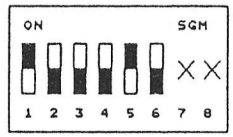
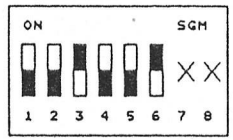
3) Suspend Mode
a) Static Suspend
(CPU enter Stop Grant, FDD,COM,HDD,SOUND,VIDEO enter Suspend mode)
System Event :
IRQ 1,3,4,5,6,7,9,10,11,12,14,15,NMI
@WakeUp Event :
IRQ 1,8,COMRI
b) Suspend To Disk
System Event :
IRQ 1,3,4,5,6,7,9,10,11,12,14,15,NMI
WakeUp Event :
Power On Buttom

Respective Device Standby
i) Hard Disk :
System Event: IRQ 14,15
Wake Up by Hard Disk Access
ii)Video :
System Event: IRQ 1,12
Wake Up By Keyboard or PS/2 Mouse Active

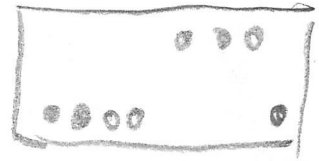
** COMRI is the Ring signal of Modem*

G753+ CPU SPEED & VOLTAGE SWITCH SETTING

SW1	
SPEED	SETTING
75	
90	
100/ 233	
120	
133	
150	

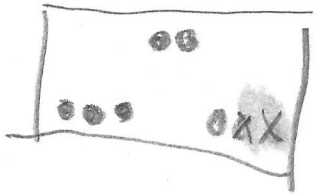
SW2	
VOLTAGE	SETTING
2.5V	
2.9V	
3.1V	
3.3V	
*SW2 PIN7 & PIN8 IS NC PIN SO " X " MEANS DON'T CARE	

166



200

2.8V



FILE : SW753P

Approved by	Checked by	Designed by

ALPHA-TOP CORPORATION

Title: G753+ M/B CPU SELECTION SWITCH SETTING

Size	Document Number	REV
B	G753H0168	00

Date: November 4, 1996 Sheet 1 of 1

PAGE 1 : THIS PAGE
PAGE 2 : CPU SOCKET (SPGA)
PAGE 3 : INTEL MTSC (83437MX)
PAGE 4 : 32K X 32 SRAM
PAGE 5 : INTEL MTDP (82438MX)
PAGE 6 : INTEL MPIIX (82371MX)
PAGE 7 : DRAM , DIM SOCKET
PAGE 8 : BIOS SOCKET
PAGE 9 : IDE CONTROLLER (PCI0646) , HDD & CD-ROM CONN
PAGE 10: SUPER IO (NS338) , FIR & FDD CONN
PAGE 11: MAX213 , SERIAL & PARALLEL CONN ; ERRATA 27
PAGE 12: VGA CONTROLLER (NM2093)
PAGE 13: TV OUT , AD722 & LCDVDD SWITCH
PAGE 14: LCD DAMPING RESISTOR , CRT CONN
PAGE 15: SOUND CHIP (ES1878)
PAGE 16: GAME PORT ,MIC AMP ,DS1669
PAGE 17: SPEAKER OUT AMP & CONN
PAGE 18: MIC ,LINE IN & LINE OUT JACK
PAGE 19: WAVETABLE CHIP (ES981 & ES690)
PAGE 20: MICRO P. M37451SFP
PAGE 21: KB CONTROLER M38802M2 , K.B.& T/B CONN. & RTC DS12885
PAGE 22: BUSY SIGNAL & IO PORT 110-112
PAGE 23: LCDI ,MODEM & PCMCIA CONN.
PAGE 24: SRAM ZZ MODE & SPARE PARTS
PAGE 25: CLOCK GENERATOR & CPU CLK SELECTER
PAGE 26: SYSTEM BYPASS & CPU BYPASS ,BULK CAPACITORS
PAGE 27: DOCKING CONN. (AMP C-59013-32)
PAGE 28: POWER ON BOARD-1
PAGE 29: POWER ON BOARD-2
PAGE 30: POWER ON BOARD-3
PAGE 31: POWER ON BOARD-4
PAGE 32: POWER ON BOARD-5
PAGE 33: HISTORY

```
!LINK
!CORE-1
!CORE-2
!CORE-3
!CORE-4
!CORE-5
!DRAM-1
!BIOS-1
!IDE-1
!IO-1
!IO-2
!VGA-1
!VGA-2
!VGA-3
!SND-1
!SND-2
!SND-3
!SND-4
!SND-5
!KB-1
!KB-2
!PMU-1
!CONN-1
!ADD-1
!CLK-1
!BYPASS-1
!DOC-1
!PWR-11
!PWR-12
!PWR-13
!PWR-14
!PWR-15
```

PCB P/N : KK101402
LAYOUT : H.J.
GERBER FILE : 926CGBR1/2/3.ZIP

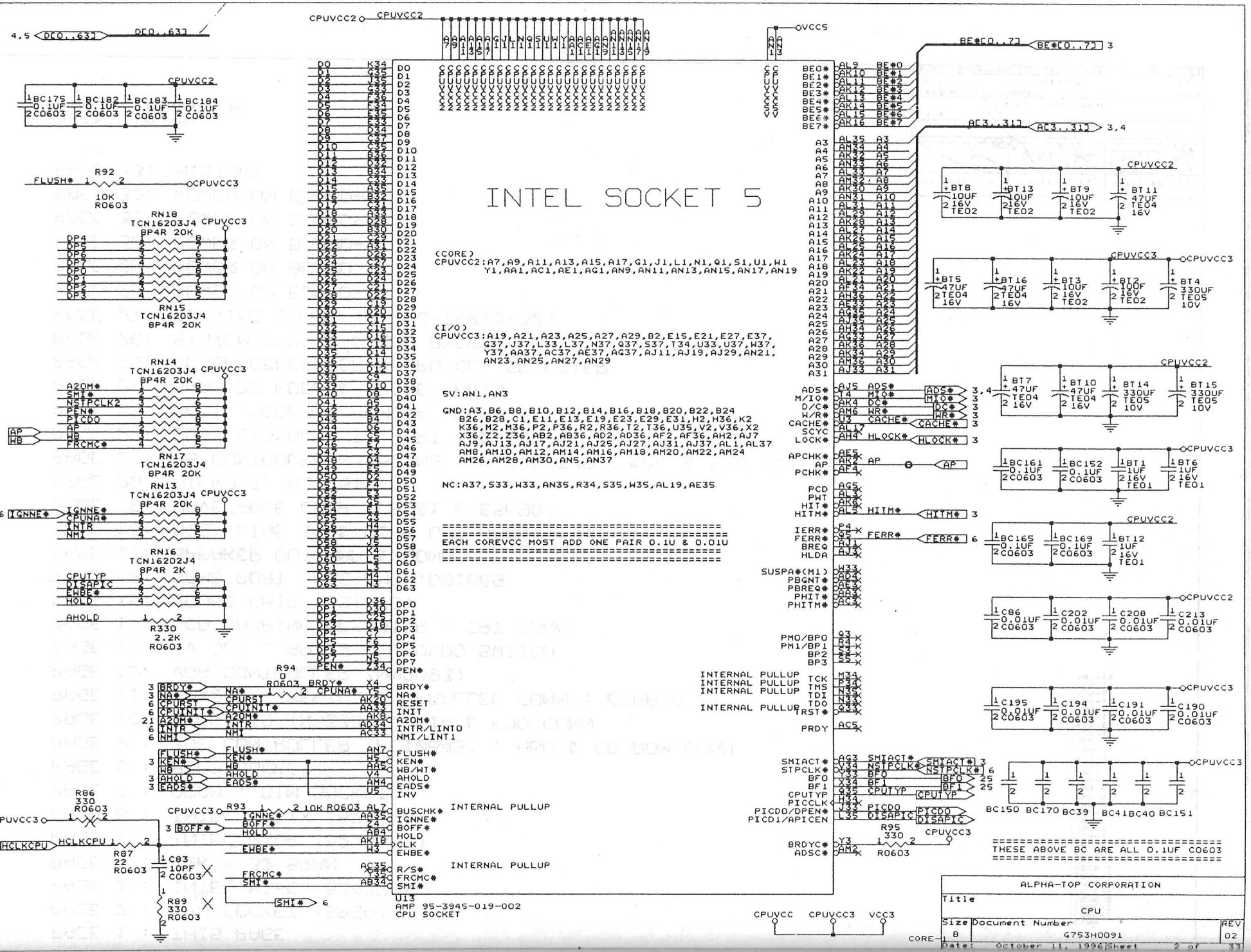
Approved by	Checked by	Designed by
		林茂荣 12/16

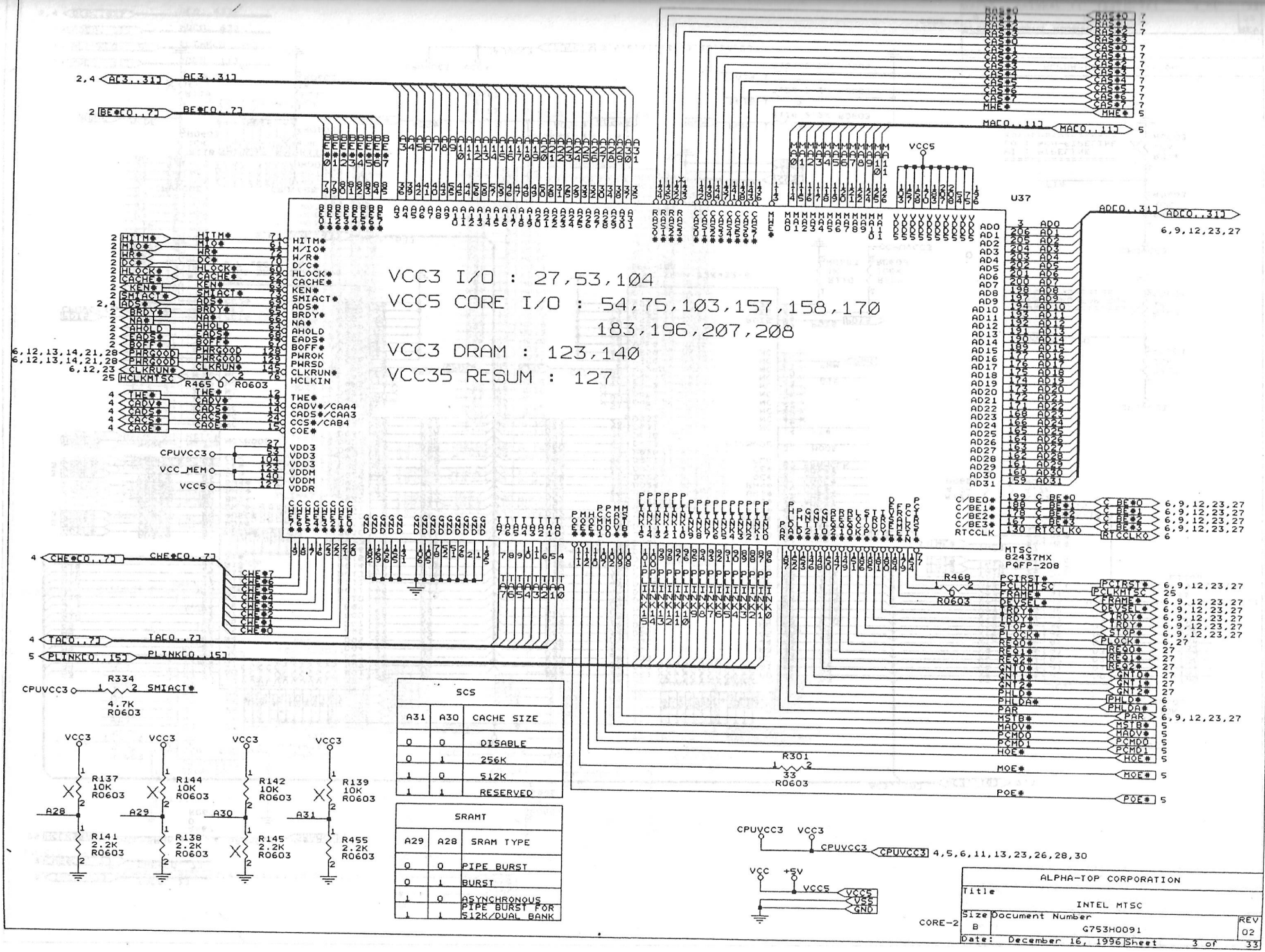
ALPHA TOP

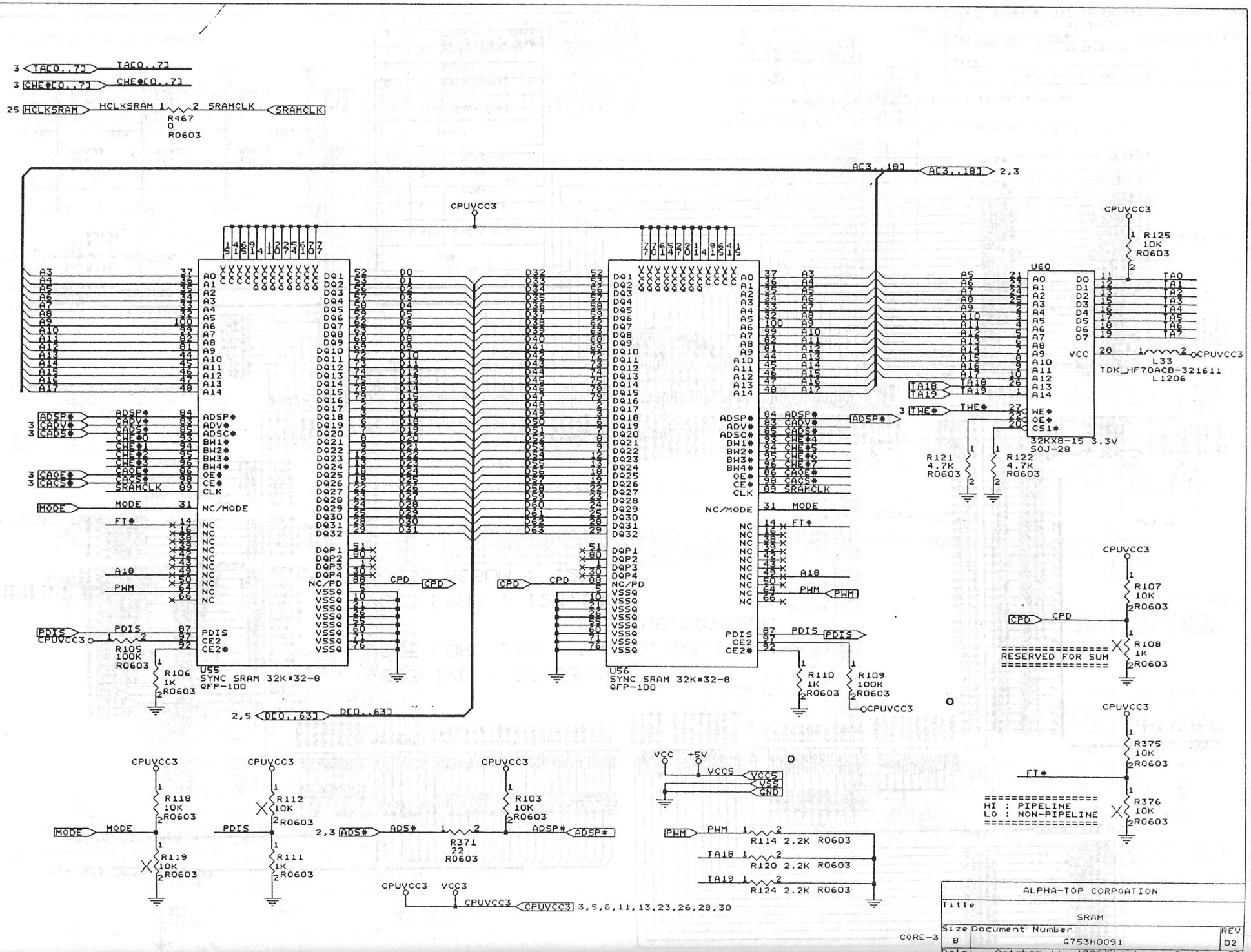
Title: G753+ COVER PAGE

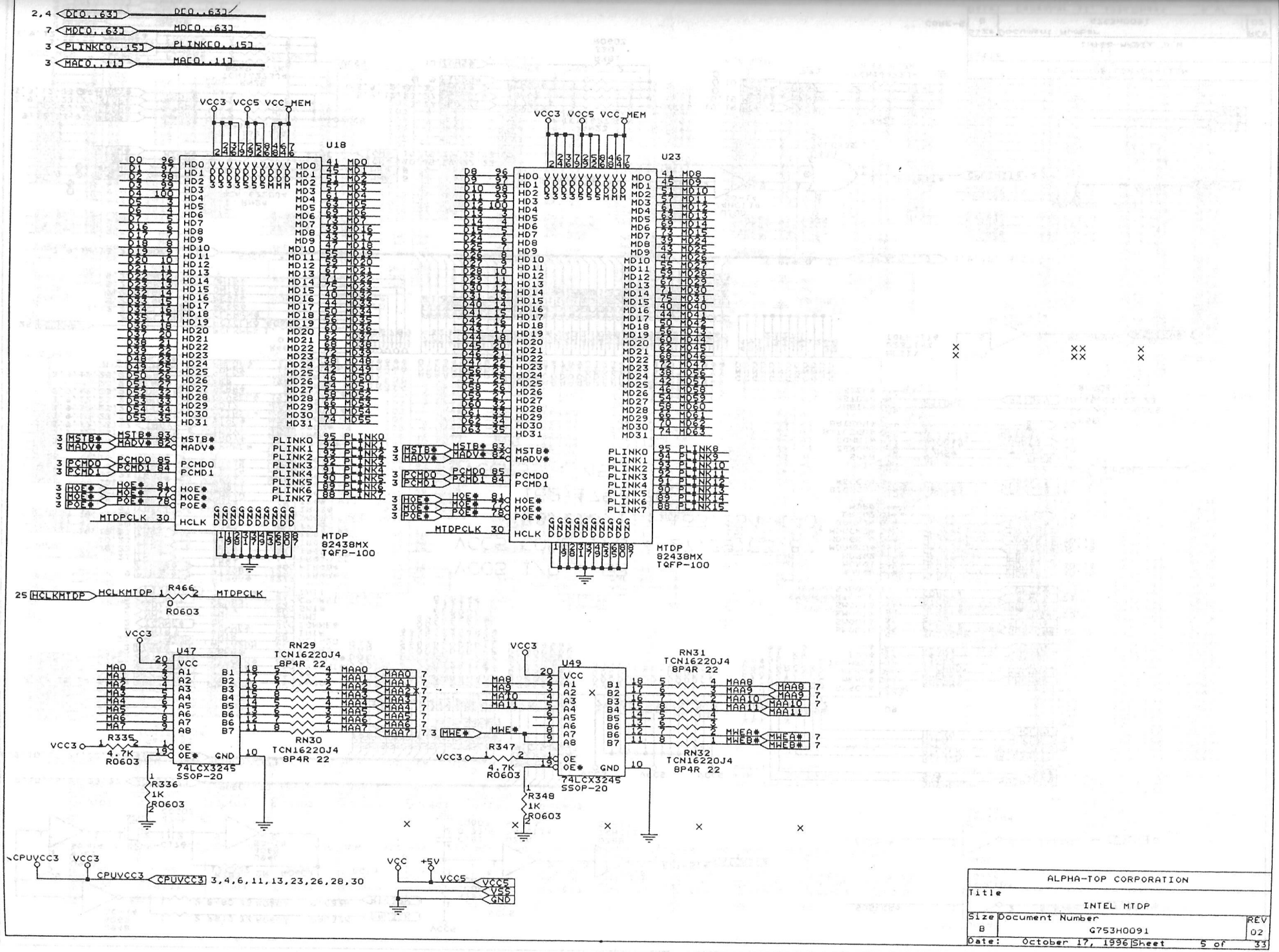
Size	Document Number	REV
B	G753H0091	02

Date: December 16, 1996 Sheet 1 of 33

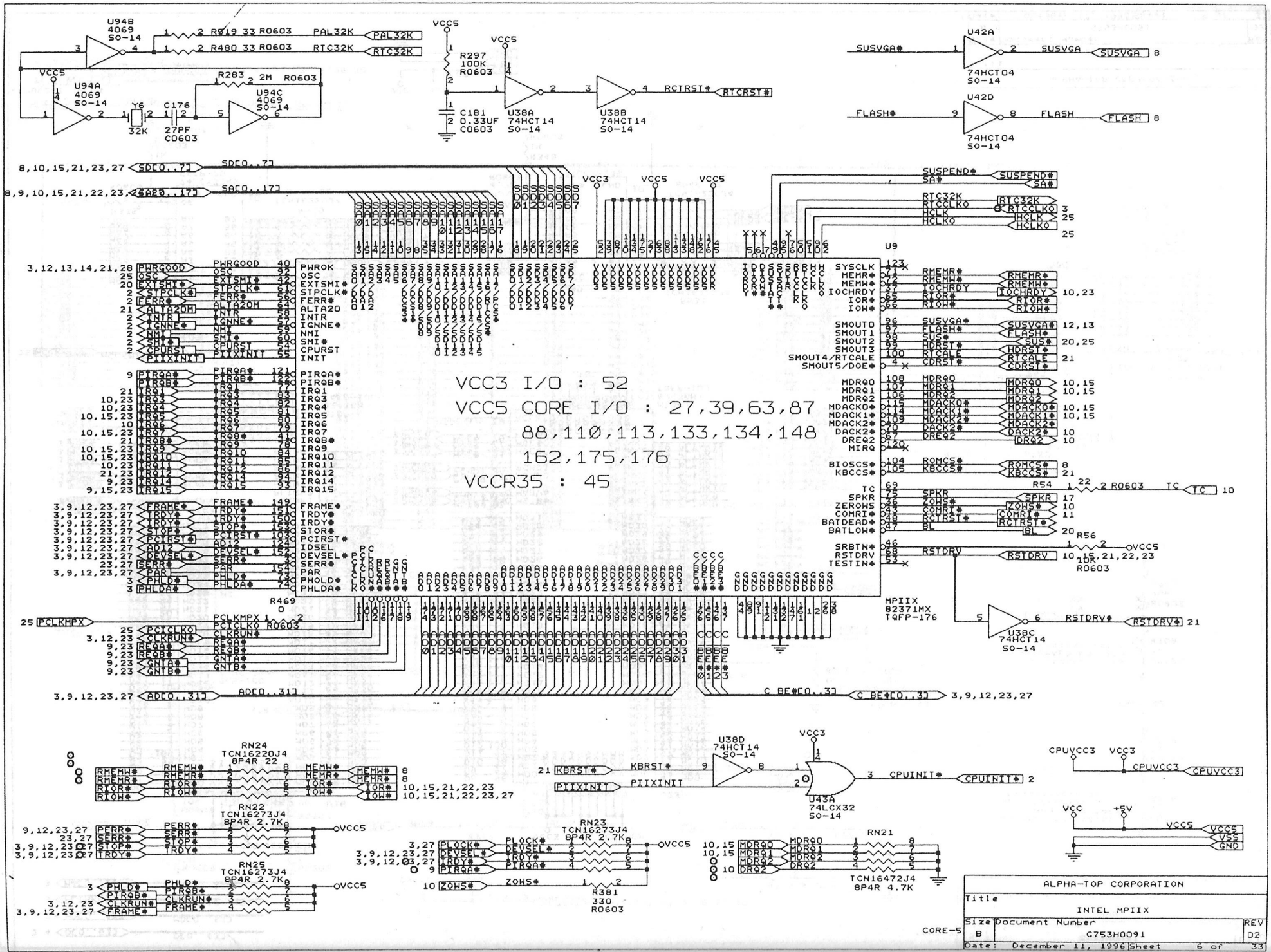

INTEL SOCKET 5
(CORE)
CPUVCC2:A7,A9,A11,A13,A15,A17,G1,J1,L1,N1,Q1,S1,U1,W1
Y1,AA1,AC1,AE1,AG1,AN9,AN11,AN13,AN15,AN17,AN19
(I/O)
CPUVCC3:A19,A21,A23,A25,A27,A29,B2,E15,E21,E27,E37,
G37,J37,L33,L37,N37,Q37,S37,T34,U33,U37,W37,
Y37,AA37,AC37,AE37,AG37,AJ11,AJ19,AJ29,AN21,
AN23,AN25,AN27,AN29
5V:AN1,AN3
GND:A3,B6,B8,B10,B12,B14,B16,B18,B20,B22,B24
B26,B28,C1,E11,E13,E19,E23,E29,E31,H2,H36,K2
K36,M2,M36,P2,P36,R2,R36,T2,T36,U35,V2,V36,X2
X36,Z2,Z36,AB2,AB36,AD2,AD36,AF2,AF36,AH2,AJ7
AJ9,AJ13,AJ17,AJ21,AJ25,AJ27,AJ31,AJ37,AL1,AL37
AM8,AM10,AM12,AM14,AM16,AM18,AM20,AM22,AM24
AM26,AM28,AM30,AN5,AN37
NC:A37,S33,W33,AN35,R34,S35,W35,AL19,AE35
EACH COREVCC MOST ADD ONE PAIR 0.1U & 0.01U
U13
AMP 95-3945-019-002
CPU SOCKET
THESE ABOVE BC ARE ALL 0.1UF C0603
ALPHA-TOP CORPORATION
Title
CPU
Size B
Document Number G753H0091
REV 02
Date: October 11, 1996 Sheet 2 of 33

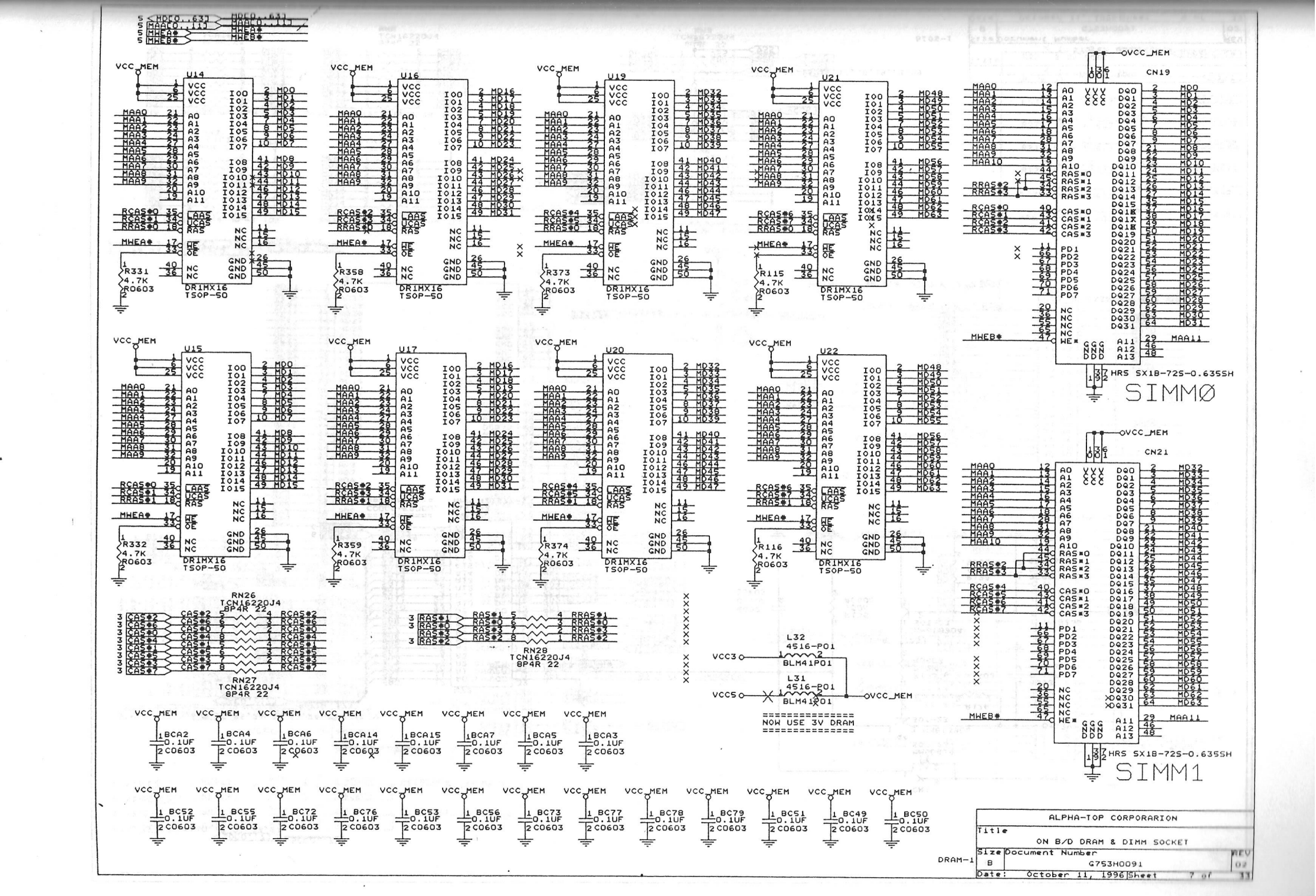

VCC3 I/O : 27,53,104
VCC5 CORE I/O : 54,75,103,157,158,170
183,196,207,208
VCC3 DRAM : 123,140
VCC35 RESUM : 127
U37
MTSC
82437MX
PQFP-208
SCS
A31 A30 CACHE SIZE
0 0 DISABLE
0 1 256K
1 0 512K
1 1 RESERVED
SRAMT
A29 A28 SRAM TYPE
0 0 PIPE BURST
0 1 BURST
1 0 ASYNCHRONOUS
1 1 PIPE BURST FOR 512K/DUAL BANK
ALPHA-TOP CORPORATION
Title
INTEL MTSC
Size B
Document Number G753H0091
REV 02
Date: December 16, 1996 Sheet 3 of 33
CORE-2

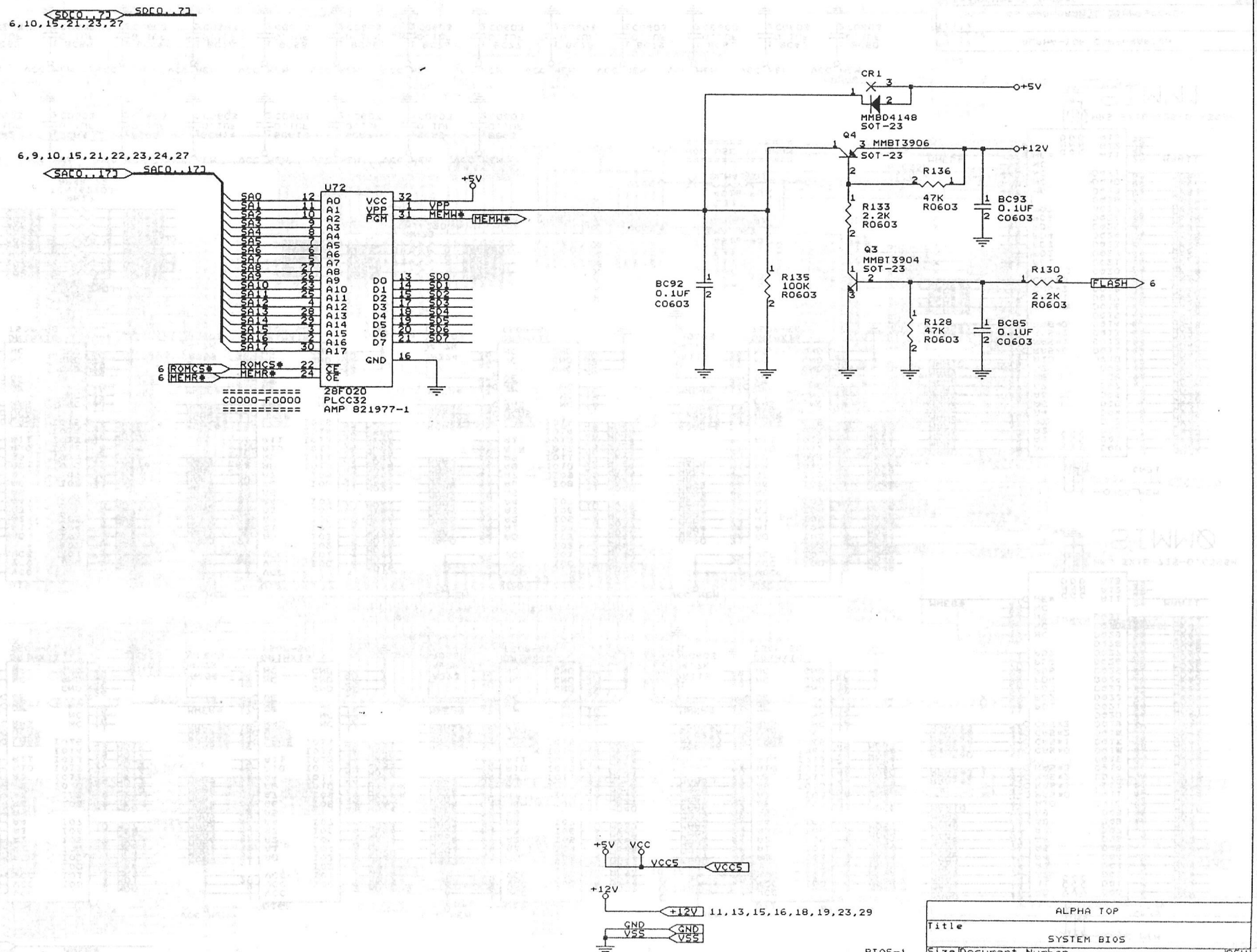

TA[0..7]
CWE#[0..7]
HCLKSRAM
R467
0
R0603
SRAMCLK
A[3..18]
CPUVCC3
U55
SYNC SRAM 32K*32-8
QFP-100
U56
SYNC SRAM 32K*32-8
QFP-100
U60
32KX8-15 3.3V
SOJ-28
TDK_HF70ACB-321611
L1206
L33
R105 100K R0603
R106 1K R0603
R107 10K R0603
R108 1K R0603
R109 100K R0603
R110 1K R0603
R111 1K R0603
R112 10K R0603
R114 2.2K R0603
R118 10K R0603
R119 10K R0603
R120 2.2K R0603
R121 4.7K R0603
R122 4.7K R0603
R124 2.2K R0603
R125 10K R0603
R371 22 R0603
R375 10K R0603
R376 10K R0603
RESERVED FOR SUM
HI : PIPELINE
LO : NON-PIPELINE
CPUVCC3 3,5,6,11,13,23,26,28,30
ALPHA-TOP CORPOATION
SRAM
CORE-3
G753H0091
REV 02



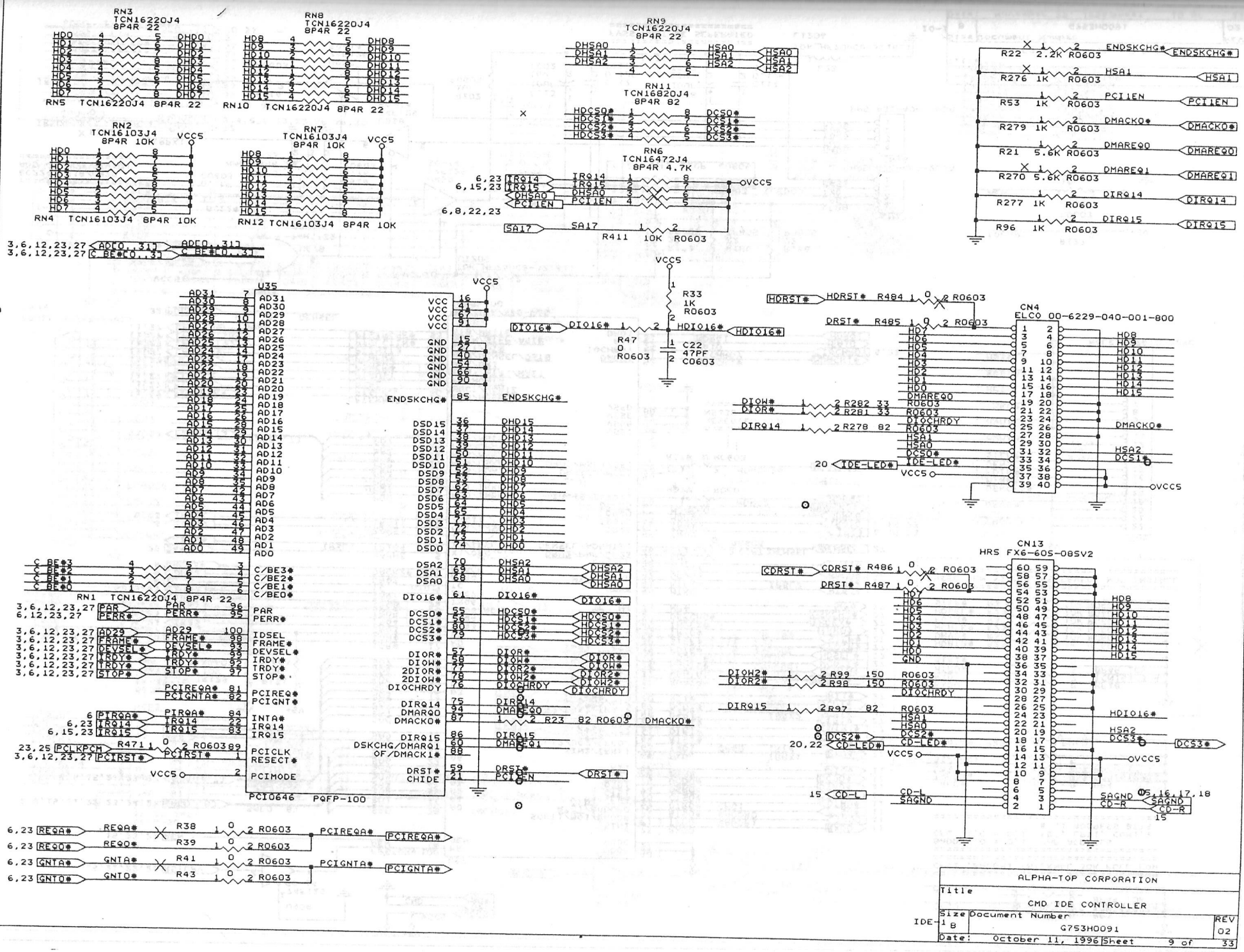
ALPHA-TOP CORPORATION		
Title: INTEL MTDP		
Size: B	Document Number: G753H0091	REV: 02
Date: October 17, 1996	Sheet: 5 of 33	

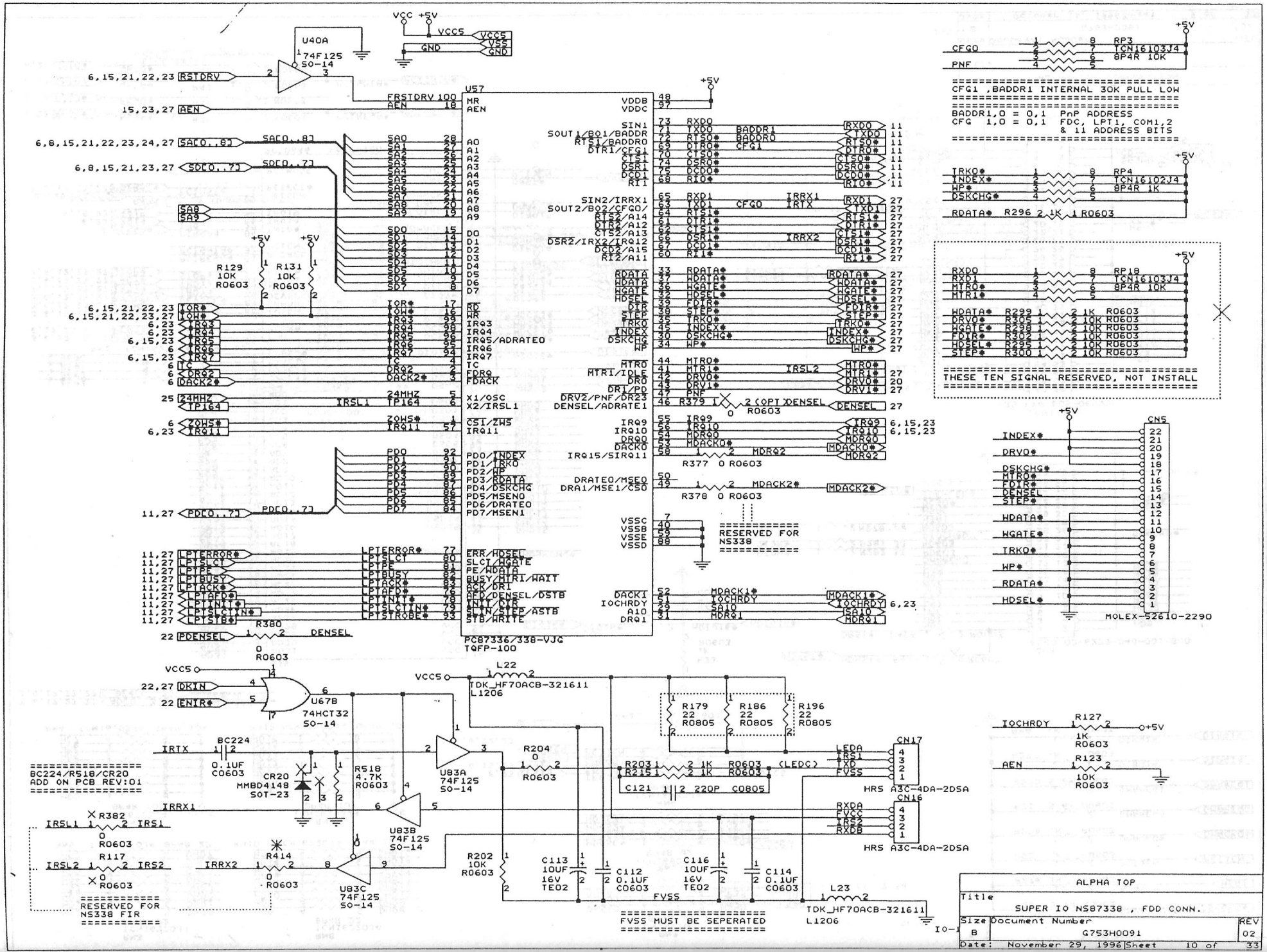

VCC3 I/O : 52
VCC5 CORE I/O : 27,39,63,87
88,110,113,133,134,148
162,175,176
VCCR35 : 45
MPIIX
82371MX
TQFP-176
U9
ALPHA-TOP CORPORATION
Title
INTEL MPIIX
Size B
Document Number G753H0091
REV 02
Date: December 11, 1996 Sheet 6 of 33
CORE-5

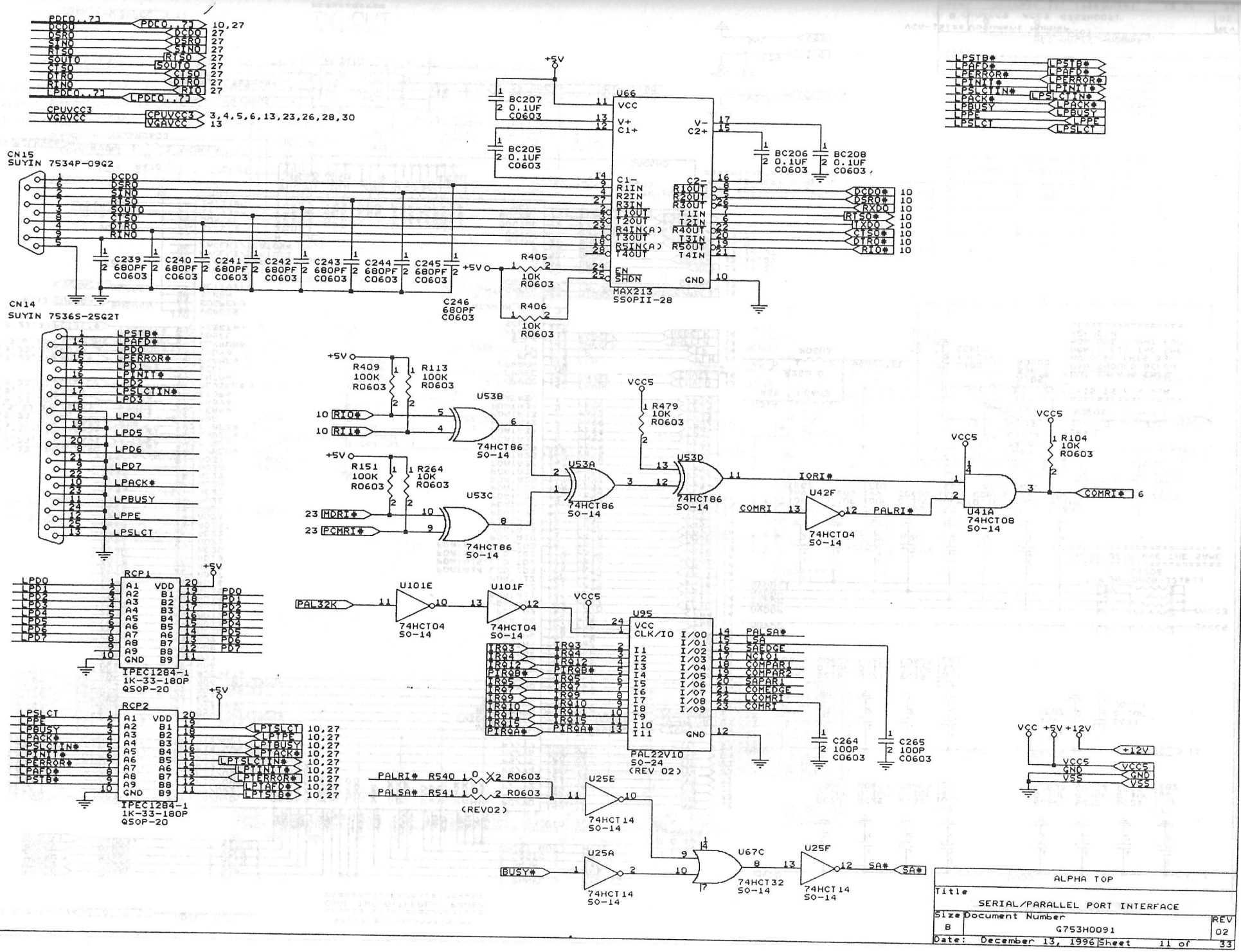

MDLO..63
MAALO..11
MWEA*
MWEB*
VCC_MEM
U14
U16
U19
U21
U15
U17
U20
U22
DR1MX16
TSOP-50
R331
R358
R373
R115
R332
R359
R374
R116
4.7K
R0603
MHEA*
MHEB*
CN19
CN21
HRS SX1B-72S-0.635SH
SIMMØ
SIMM1
RN26
TCN16220J4
8P4R 22
RN27
TCN16220J4
8P4R 22
RN28
TCN16220J4
8P4R 22
L32
4516-P01
BLM41P01
L31
4516-P01
BLM41P01
VCC3
VCC5
NOW USE 3V DRAM
BCA2
BCA4
BCA6
BCA14
BCA15
BCA7
BCA5
BCA3
BC52
BC55
BC72
BC76
BC53
BC56
BC73
BC77
BC78
BC79
BC51
BC49
BC50
0.1UF
C0603
ALPHA-TOP CORPORARION
Title
ON B/D DRAM & DIMM SOCKET
Size
B
Document Number
G753H0091
REV
02
Date:
October 11, 1996
Sheet
7 of
33
DRAM-1

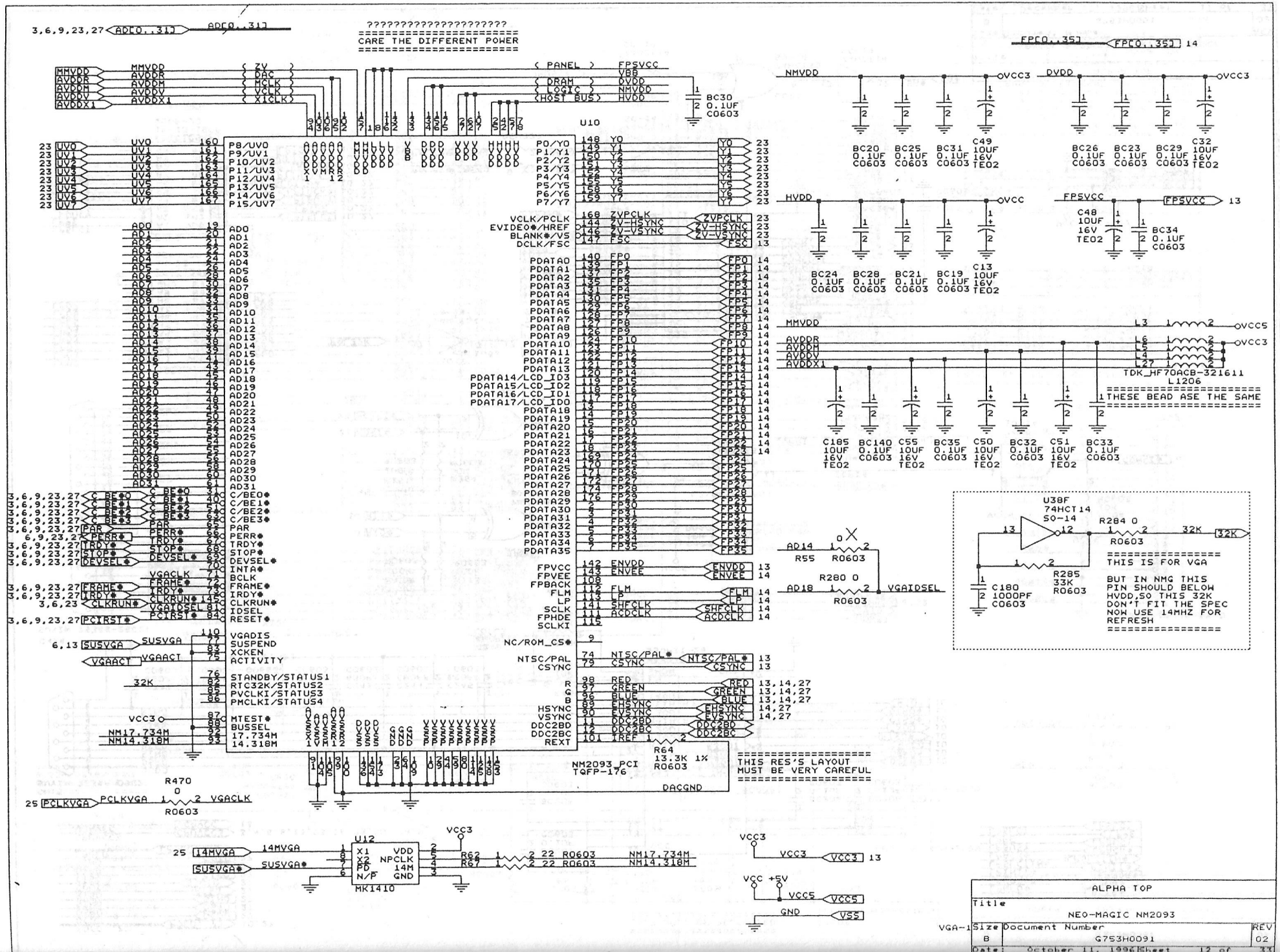


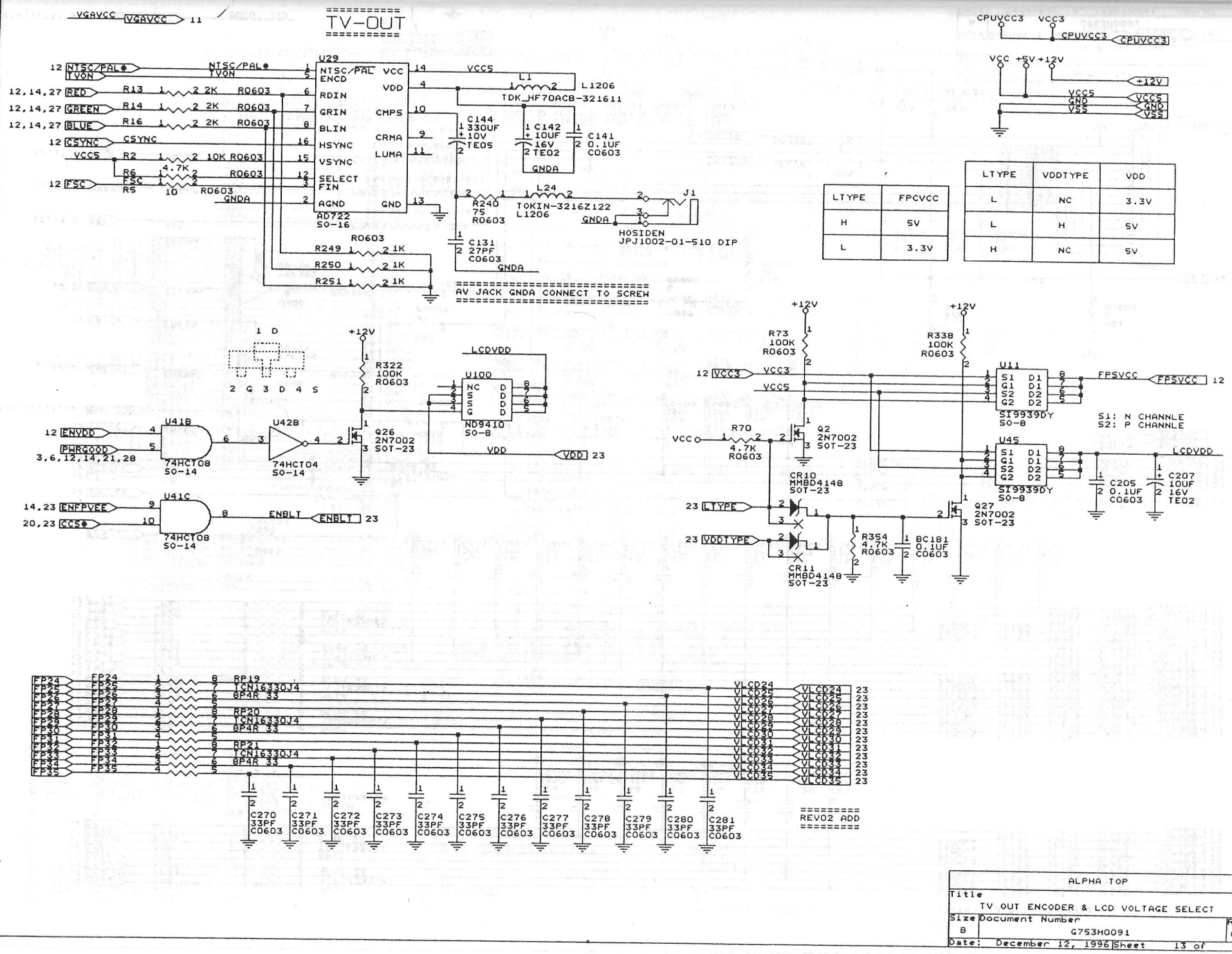
	ALPHA TOP	
Title	SYSTEM BIOS	
Size B	Document Number G753H0091	REV 02
	BIOS-1	


RN3 TCN16220J4 8P4R 22
RN8 TCN16220J4 8P4R 22
RN9 TCN16220J4 8P4R 22
RN11 TCN16820J4 8P4R 82
RN6 TCN16472J4 8P4R 4.7K
RN2 TCN16103J4 8P4R 10K
RN7 TCN16103J4 8P4R 10K
RN4 TCN16103J4 8P4R 10K
RN12 TCN16103J4 8P4R 10K
RN5 TCN16220J4 8P4R 22
RN10 TCN16220J4 8P4R 22
RN1 TCN16220J4 8P4R 22
U35
PCI0646 PQFP-100
CN4 ELCO 00-6229-040-001-800
CN13 HRS FX6-60S-08SV2
R33 1K R0603
R47 0 R0603
C22 47PF C0603
R411 10K R0603
R471 0 R0603
R38 0 R0603
R39 0 R0603
R41 0 R0603
R43 0 R0603
R484 0 R0603
R485 0 R0603
R282 33 R0603
R281 33 R0603
R278 82 R0603
R486 0 R0603
R487 0 R0603
R99 150 R0603
R98 150 R0603
R97 82 R0603
R23 82 R0603
R22 2.2K R0603
R276 1K R0603
R53 1K R0603
R279 1K R0603
R21 5.6K R0603
R270 5.6K R0603
R277 1K R0603
R96 1K R0603
ALPHA-TOP CORPORATION
CMD IDE CONTROLLER
G753H0091
October 11, 1996
9 of 33


U40A
74F125
SO-14
VCC +5V
VCC5
GND
U57
PC87336/338-VJG
TQFP-100
RESERVED FOR NS338
BC224/R518/CR20
ADD ON PCB REV:01
RESERVED FOR NS338 FIR
U67B
74HCT32
SO-14
U83A
74F125
SO-14
U83B
74F125
SO-14
U83C
74F125
SO-14
CR20
MMBD4148
SOT-23
FVSS MUST BE SEPERATED
CFG1 ,BADDR1 INTERNAL 30K PULL LOW
BADDR1,0 = 0,1 PnP ADDRESS
CFG 1,0 = 0,1 FDC, LPT1, COM1,2
& 11 ADDRESS BITS
THESE TEN SIGNAL RESERVED, NOT INSTALL
HRS A3C-4DA-2DSA
MOLEX-52610-2290
ALPHA TOP
SUPER IO NS87338 , FDD CONN.
G753H0091
November 29, 1996

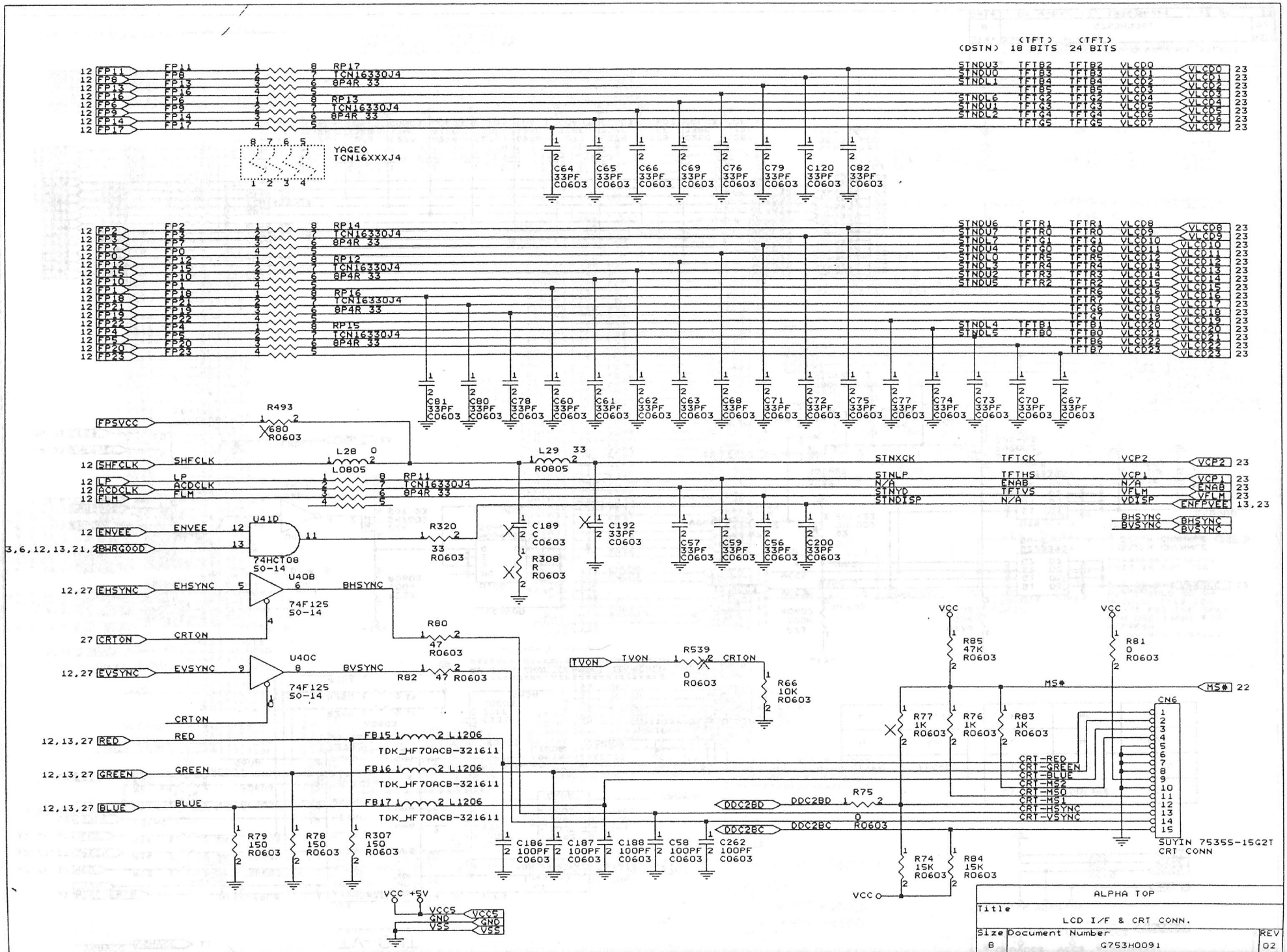

PDCD..7]
DCDO
DSRO
SINO
RTSO
SOUTO
CTSO
DTRO
RINO
LPDCO..7]
10,27
27
CPUVCC3
VGAVCC
3,4,5,6,13,23,26,28,30
13
CN15
SUYIN 7534P-09G2
CN14
SUYIN 7536S-25G2T
+5V
U66
VCC
V+
C1+
V-
C2+
C1-
C2-
R1IIN
R2IIN
R3IIN
T1OUT
T2OUT
R4IN(A)
T3OUT
R5IN(A)
T4OUT
R1OUT
R2OUT
R3OUT
T1IN
T2IN
R4OUT
T3IN
R5OUT
T4IN
EN
SHDN
GND
MAX213
SSOPII-28
BC207 0.1UF C0603
BC205 0.1UF C0603
BC206 0.1UF C0603
BC208 0.1UF C0603
C239 680PF C0603
C240 680PF C0603
C241 680PF C0603
C242 680PF C0603
C243 680PF C0603
C244 680PF C0603
C245 680PF C0603
C246 680PF C0603
R405 10K R0603
R406 10K R0603
DCDO*
DSRO*
RXDO
RTSO*
TXDO
CTSO*
DTRO*
RIO*
LPSTB*
LPAFD*
LPERROR*
LPINIT*
LPSLCTIN*
LPACK*
LPBUSY
LPPE
LPSLCT
LPD0
LPD1
LPD2
LPD3
LPD4
LPD5
LPD6
LPD7
R409 100K R0603
R113 100K R0603
R151 100K R0603
R264 10K R0603
R479 10K R0603
R104 10K R0603
U53B
U53A
U53C
U53D
74HCT86 SO-14
RIO*
RI1*
MDRI*
PCMRI*
IORI*
COMRI*
COMRI
PALRI*
U42F
U41A
74HCT04 SO-14
74HCT08 SO-14
RCP1
RCP2
IPEC1284-1 1K-33-180P QSOP-20
PAL32K
U101E
U101F
U95
PAL22V10 SO-24 (REV 02)
IRQ3
IRQ4
IRQ12
PIRQB*
IRQ5
IRQ7
IRQ9
IRQ10
IRQ11
IRQ15
PIRQA*
PALSA*
LSA
SAEDGE
NCT01
COMPAR1
COMPAR2
SAPAR1
COMEDGE
LCOMRI
COMRI
C264 100P C0603
C265 100P C0603
PALRI* R540 R0603
PALSA* R541 R0603
(REV02)
U25E
U25A
U67C
U25F
74HCT14 SO-14
74HCT32 SO-14
BUSY*
SA*
+12V
VCC5
GND
VSS
ALPHA TOP
Title
SERIAL/PARALLEL PORT INTERFACE
Size B
Document Number G753H0091
REV 02
Date: December 13, 1996
Sheet 11 of 33

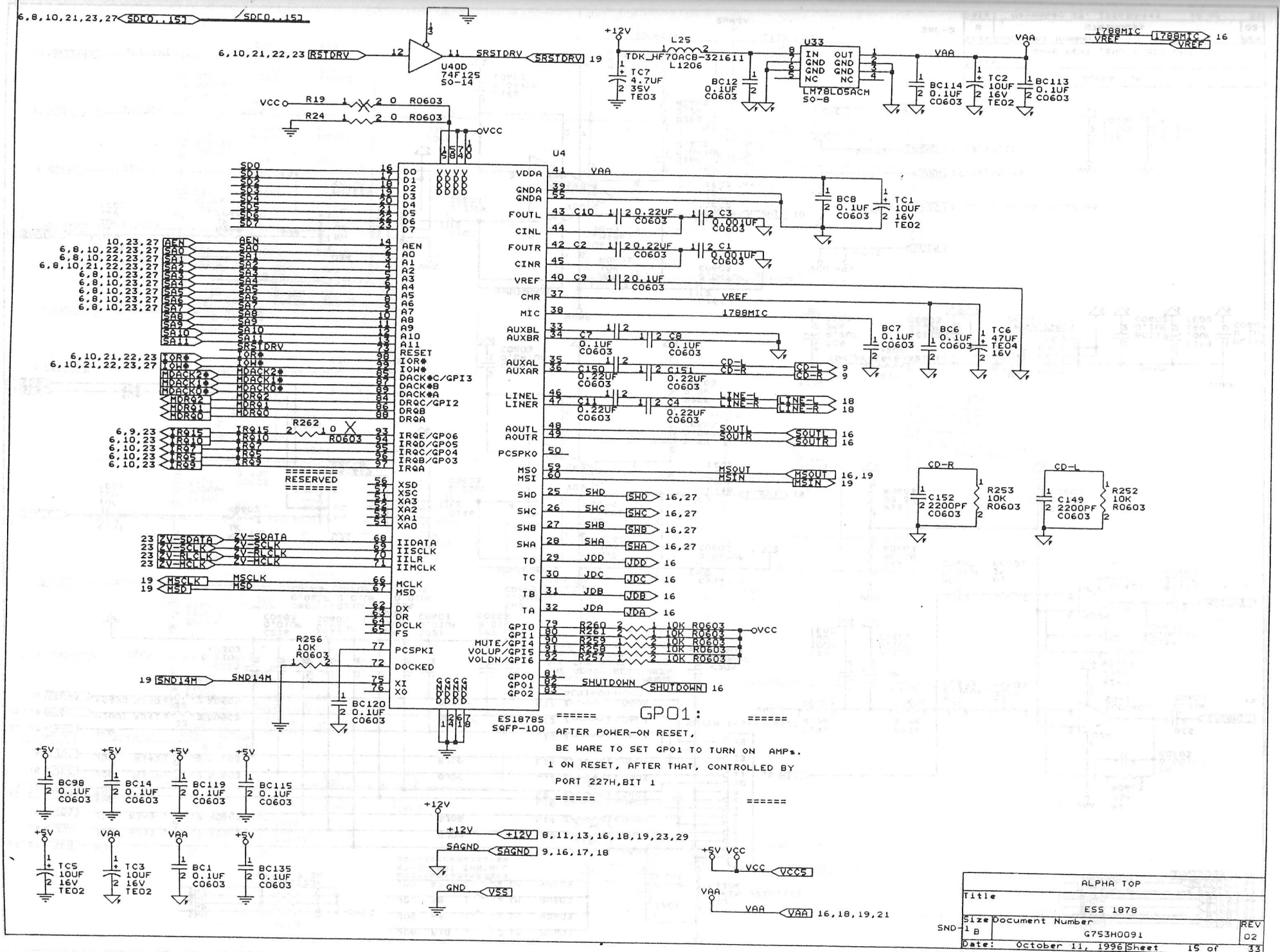

3,6,9,23,27 ADC0..31
ADC0..31
??????????????????????
CARE THE DIFFERENT POWER
FPC0..35
FPC0..35 14
MMVDD
AVDDR
AVDDM
AVDDV
AVDDX1
ZV
DAC
MCLK
VCLK
X1CLK
PANEL
DRAM
LOGIC
HOST BUS
FPSVCC
VBB
DVDD
NMVDD
HVDD
BC30 0.1UF C0603
U10
P8/UV0
P9/UV1
P10/UV2
P11/UV3
P12/UV4
P13/UV5
P14/UV6
P15/UV7
P0/Y0
P1/Y1
P2/Y2
P3/Y3
P4/Y4
P5/Y5
P6/Y6
P7/Y7
VCLK/PCLK
EVIDEO*/HREF
BLANK*/VS
DCLK/FSC
ZVPCLK
ZV-HSYNC
ZV-VSYNC
FSC
PDATA0..PDATA35
PDATA14/LCD_ID3
PDATA15/LCD_ID2
PDATA16/LCD_ID1
PDATA17/LCD_ID0
AD0..AD31
C/BE#0..C/BE#3
PAR
PERR*
TRDY*
STOP*
DEVSEL*
INTA*
BCLK
FRAME*
IRDY*
CLKRUN*
VGAIDSEL
IDSEL
RESET*
VGADIS
SUSPEND
XCKEN
ACTIVITY
STANDBY/STATUS1
RTC32K/STATUS2
PVCLKI/STATUS3
PMCLKI/STATUS4
MTEST*
BUSSEL
17.734M
14.318M
ENVDD
ENVEE
FLM
LP
SHFCLK
ACDCLK
SCLK
FPHDE
SCLKI
NC/ROM_CS*
NTSC/PAL
CSYNC
NTSC/PAL*
RED
GREEN
BLUE
EHSYNC
EVSYNC
DDC2BD
DDC2BC
REXT
R64 13.3K 1% R0603
NM2093_PCI
TQFP-176
DACGND
THIS RES'S LAYOUT
MUST BE VERY CAREFUL
R470 0 R0603
PCLKVGA
VGACLK
U12
MK1410
14MVGA
SUSVGA*
R62 22 R0603 NM17.734M
R67 22 R0603 NM14.318M
VCC3
VCC +5V
VCC5
GND
VSS
BC20 0.1UF C0603
BC25 0.1UF C0603
BC31 0.1UF C0603
C49 10UF 16V TE02
BC26 0.1UF C0603
BC23 0.1UF C0603
BC29 0.1UF C0603
C32 10UF 16V TE02
BC24 0.1UF C0603
BC28 0.1UF C0603
BC21 0.1UF C0603
BC19 0.1UF C0603
C13 10UF 16V TE02
C48 10UF 16V TE02
BC34 0.1UF C0603
L3 L6 L5 L4 L27
TDK_HF70ACB-321611
L1206
THESE BEAD ASE THE SAME
C185 10UF 16V TE02
BC140 0.1UF C0603
C55 10UF 16V TE02
BC35 0.1UF C0603
C50 10UF 16V TE02
BC32 0.1UF C0603
C51 10UF 16V TE02
BC33 0.1UF C0603
R55 R0603
R280 0 R0603
VGAIDSEL
U38F
74HCT14
SO-14
R284 0 R0603
32K
R285 33K R0603
C180 1000PF C0603
THIS IS FOR VGA
BUT IN NMG THIS
PIN SHOULD BELOW
HVDD,SO THIS 32K
DON'T FIT THE SPEC
NOW USE 14MHZ FOR
REFRESH
ALPHA TOP
Title
NEO-MAGIC NM2093
VGA-1
Size B
Document Number G753H0091
REV 02
Date: October 11, 1996 Sheet 12 of 33

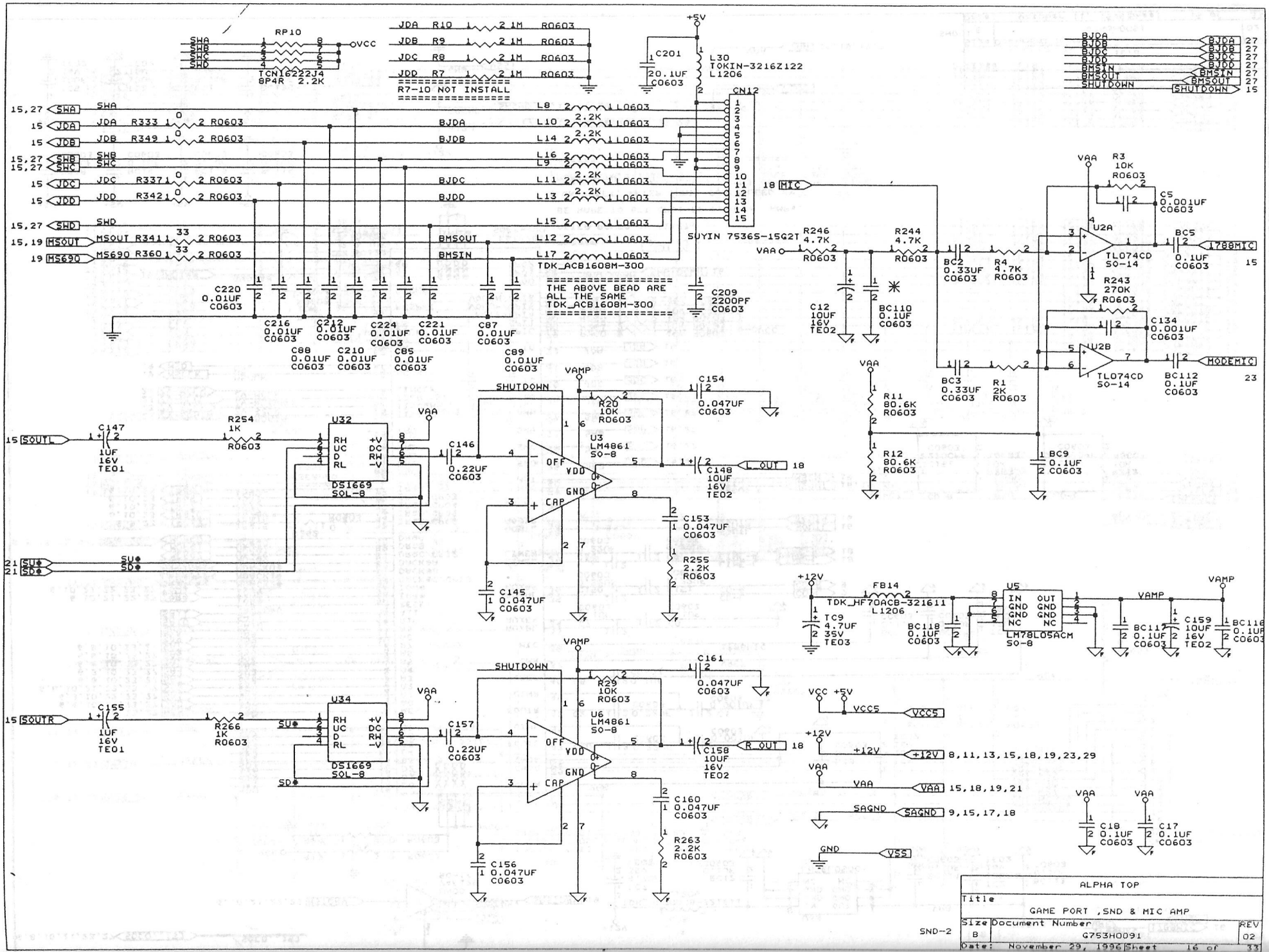


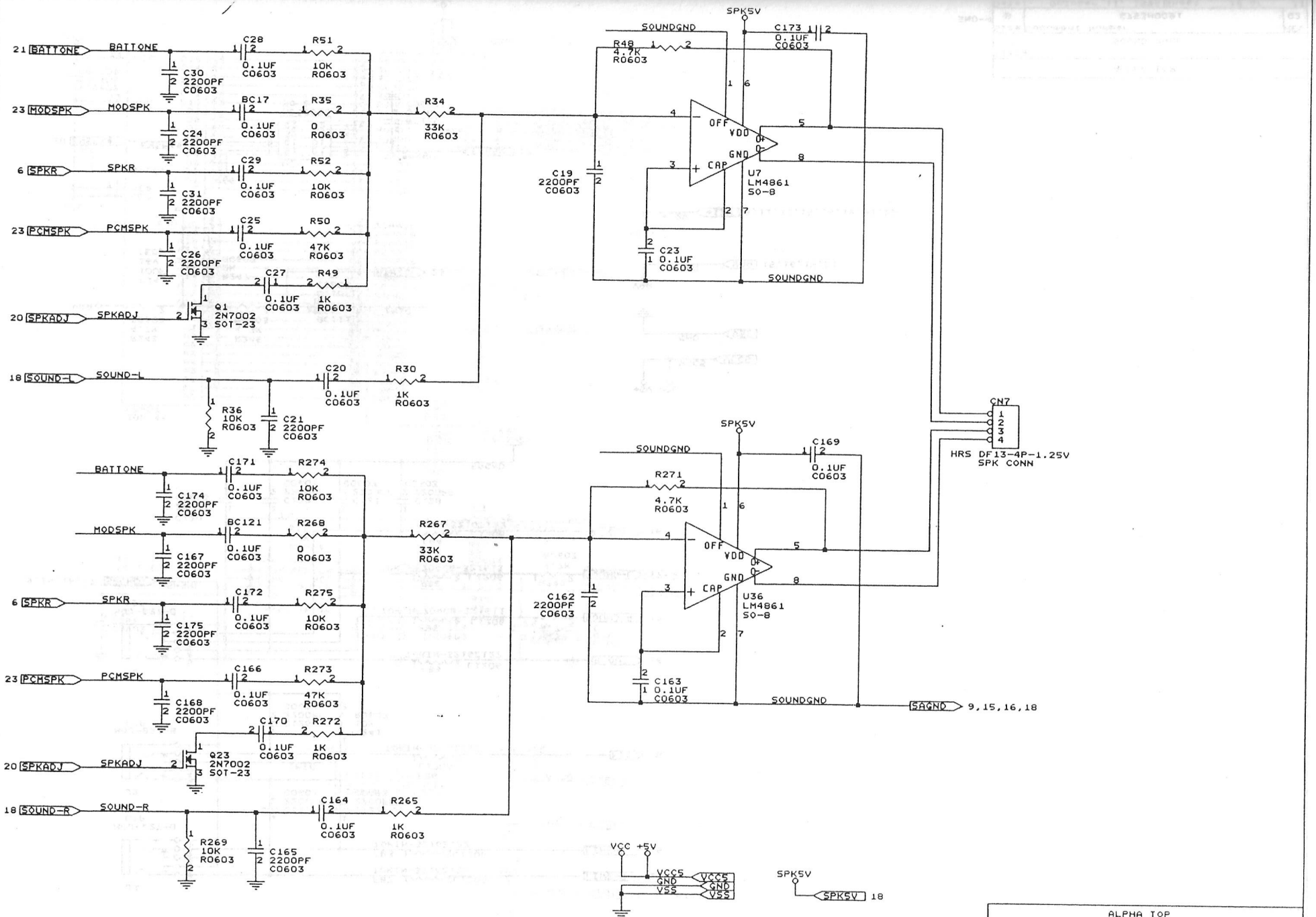
Title	TV OUT ENCODER & LCD VOLTAGE SELECT
Size	B
Document Number	G753H0091
REV	02
Date:	December 12, 1996
Sheet	13 of 33

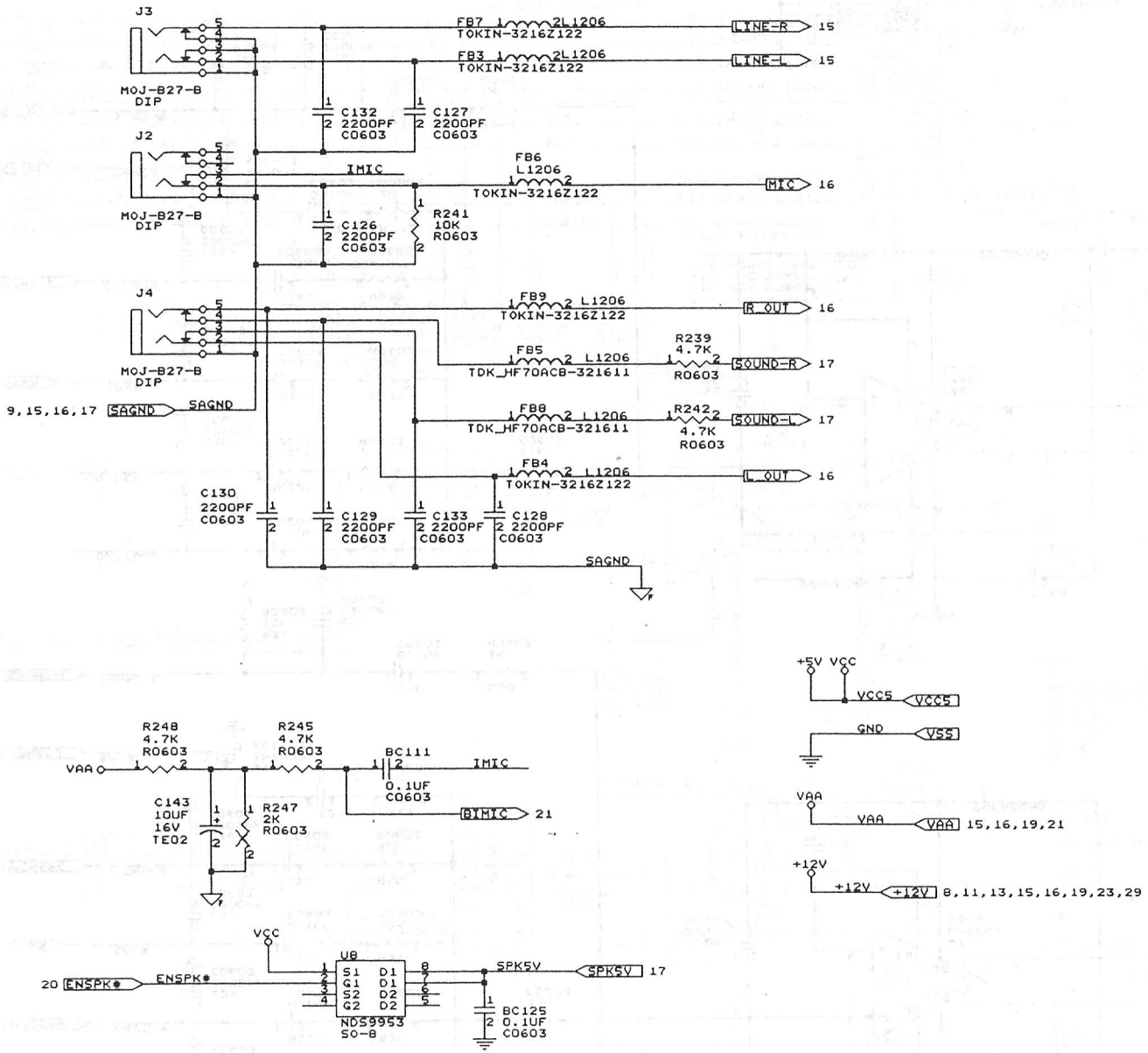
ALPHA TOP


(DSIN)
(TFT) 18 BITS
(TFT) 24 BITS
RP17
RP13
RP14
RP12
RP16
RP15
RP11
TCN16330J4
8P4R 33
YAGE0
TCN16XXXJ4
C64 33PF C0603
C65 33PF C0603
C66 33PF C0603
C69 33PF C0603
C76 33PF C0603
C79 33PF C0603
C120 33PF C0603
C82 33PF C0603
C81 33PF C0603
C80 33PF C0603
C78 33PF C0603
C60 33PF C0603
C61 33PF C0603
C62 33PF C0603
C63 33PF C0603
C68 33PF C0603
C71 33PF C0603
C72 33PF C0603
C75 33PF C0603
C77 33PF C0603
C74 33PF C0603
C73 33PF C0603
C70 33PF C0603
C67 33PF C0603
R493 680 R0603
FPSVCC
L28 0 L0805
L29 33 R0805
SHFCLK
LP
ACDCLK
FLM
ENVEE
BWRGOOD
U41D 74HCT08 SO-14
R320 33 R0603
C189 C C0603
R308 R R0603
C192 33PF C0603
C57 33PF C0603
C59 33PF C0603
C56 33PF C0603
C200 33PF C0603
U40B 74F125 SO-14
EHSYNC
BHSYNC
R80 47 R0603
CRTON
U40C 74F125 SO-14
EVSYNC
BVSYNC
R82 47 R0603
TVON
R539 0 R0603
R66 10K R0603
R85 47K R0603
R81 0 R0603
R77 1K R0603
R76 1K R0603
R83 1K R0603
MS*
CN6
SUYIN 75355-15G2T
CRT CONN
CRT-RED
CRT-GREEN
CRT-BLUE
CRT-MS2
CRT-MS0
CRT-MS1
CRT-HSYNC
CRT-VSYNC
RED
GREEN
BLUE
FB15 L1206 TDK_HF70ACB-321611
FB16 L1206 TDK_HF70ACB-321611
FB17 L1206 TDK_HF70ACB-321611
R79 150 R0603
R78 150 R0603
R307 150 R0603
C186 100PF C0603
C187 100PF C0603
C188 100PF C0603
C58 100PF C0603
C262 100PF C0603
DDC2BD
DDC2BC
R75 0 R0603
R74 15K R0603
R84 15K R0603
VCC +5V
VCC5
GND
VSS
STNDU3
STNDU0
STNDL1
STNDL6
STNDU1
STNDL2
STNDU6
STNDU7
STNDL7
STNDU4
STNDL0
STNDL3
STNDU2
STNDU5
STNDL4
STNDL5
STNXCK
STNLP
STNYD
STNDISP
TFTCK
TFTHS
TFTVS
VCP2
VCP1
ENAB
VFLM
VDISP
ENFPVEE
BHSYNC
BVSYNC
ALPHA TOP
Title
LCD I/F & CRT CONN.
Size B
Document Number G753H0091
REV 02
Date: December 6, 1996 Sheet 14 of 33

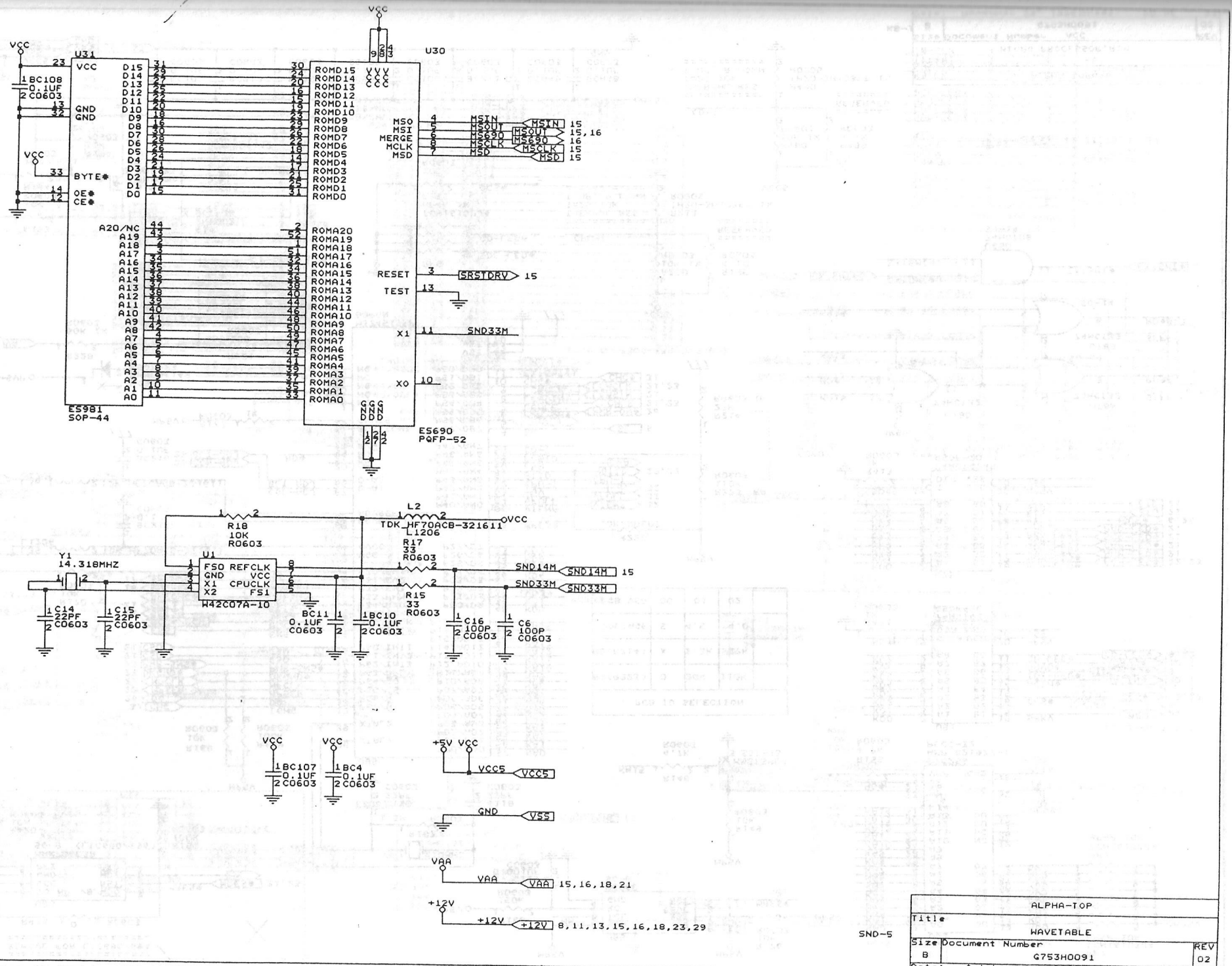

U4
ES1878S
SQFP-100
U40D
74F125
SO-14
U33
LM78L05ACM
SO-8
L25
TDK HF70ACB-321611
L1206
GP01:
AFTER POWER-ON RESET,
BE WARE TO SET GP01 TO TURN ON AMPs.
1 ON RESET, AFTER THAT, CONTROLLED BY
PORT 227H,BIT 1
ALPHA TOP
ESS 1878
G753H0091
REV 02
October 11, 1996
Sheet 15 of 33


RP10
TCN16222J4
8P4R 2.2K
R7-10 NOT INSTALL
L30
TOKIN-3216Z122
L1206
CN12
SUYIN 7536S-15G2T
THE ABOVE BEAD ARE
ALL THE SAME
TDK_ACB1608M-300
U2A
U2B
TL074CD
SO-14
U3
LM4861
SO-8
U6
DS1669
SOL-8
U32
U34
FB14
TDK_HF70ACB-321611
U5
LM78L05ACM
SND-2
ALPHA TOP
GAME PORT ,SND & MIC AMP
G753H0091
November 29, 1996


21 BATTONE
BATTONE
C28 0.1UF C0603
R51 10K R0603
C30 2200PF C0603
23 MODSPK
MODSPK
BC17 0.1UF C0603
R35 0 R0603
R34 33K R0603
C24 2200PF C0603
6 SPKR
SPKR
C29 0.1UF C0603
R52 10K R0603
C31 2200PF C0603
23 PCMSPK
PCMSPK
C25 0.1UF C0603
R50 47K R0603
C26 2200PF C0603
C27 0.1UF C0603
R49 1K R0603
20 SPKADJ
SPKADJ
Q1 2N7002 SOT-23
18 SOUND-L
SOUND-L
C20 0.1UF C0603
R30 1K R0603
R36 10K R0603
C21 2200PF C0603
SPK5V
SOUNDGND
R48 4.7K R0603
C173 0.1UF C0603
OFF
VDD
GND
CAP
U7 LM4861 SO-8
C19 2200PF C0603
C23 0.1UF C0603
CN7
HRS DF13-4P-1.25V SPK CONN
BATTONE
C171 0.1UF C0603
R274 10K R0603
C174 2200PF C0603
MODSPK
BC121 0.1UF C0603
R268 0 R0603
R267 33K R0603
C167 2200PF C0603
6 SPKR
SPKR
C172 0.1UF C0603
R275 10K R0603
C175 2200PF C0603
23 PCMSPK
PCMSPK
C166 0.1UF C0603
R273 47K R0603
C168 2200PF C0603
C170 0.1UF C0603
R272 1K R0603
20 SPKADJ
SPKADJ
Q23 2N7002 SOT-23
18 SOUND-R
SOUND-R
C164 0.1UF C0603
R265 1K R0603
R269 10K R0603
C165 2200PF C0603
SPK5V
SOUNDGND
R271 4.7K R0603
C169 0.1UF C0603
OFF
VDD
GND
CAP
U36 LM4861 SO-8
C162 2200PF C0603
C163 0.1UF C0603
SAGND 9,15,16,18
VCC +5V
VCC5
GND
VSS
SPK5V
SPK5V 18
SND-3
ALPHA TOP
Title
AUDIO AMP & SPEAKER I/F
Size B
Document Number G753H0091
REV 02
Date: November 29, 1996
Sheet 17 of 33

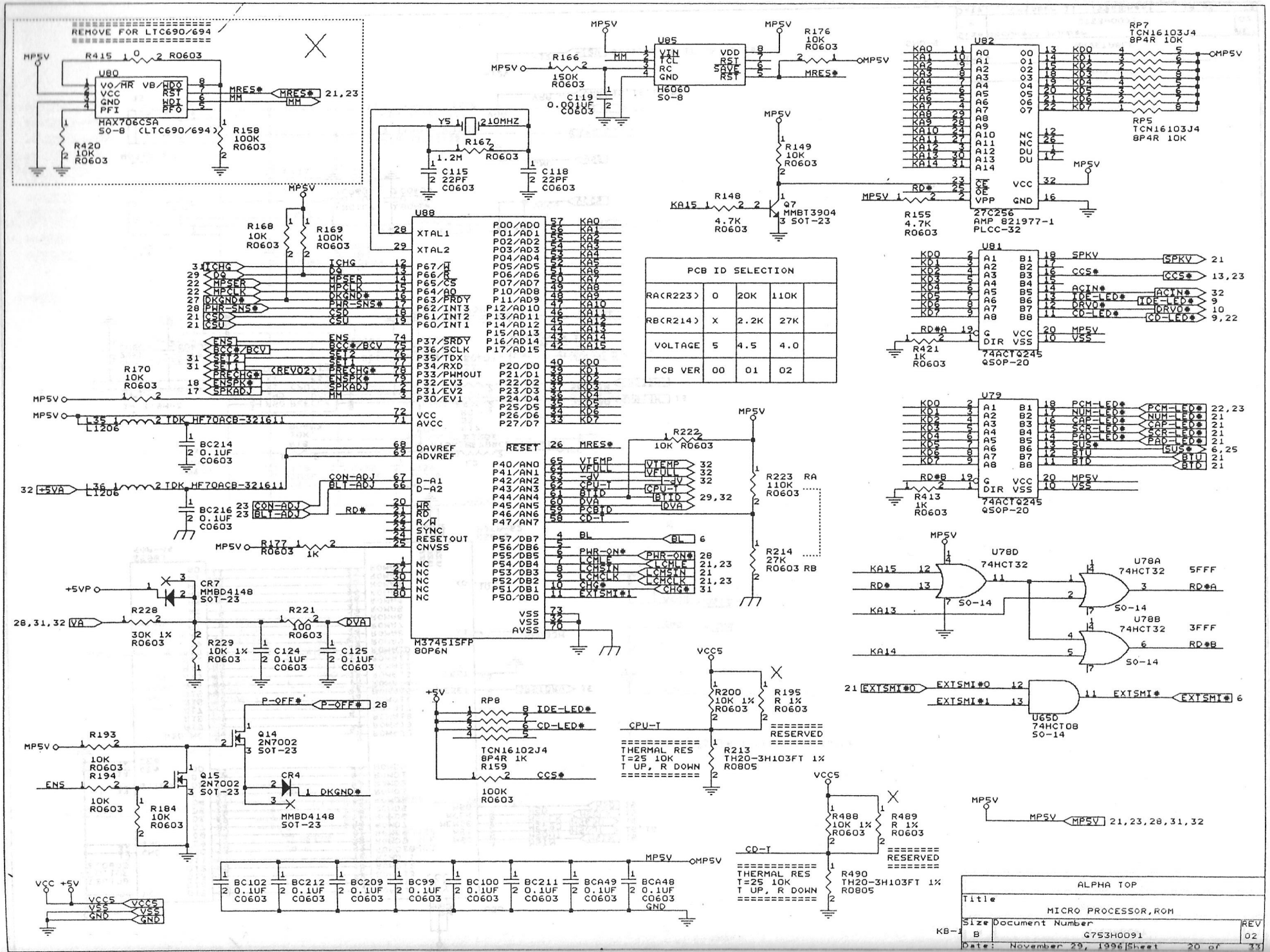


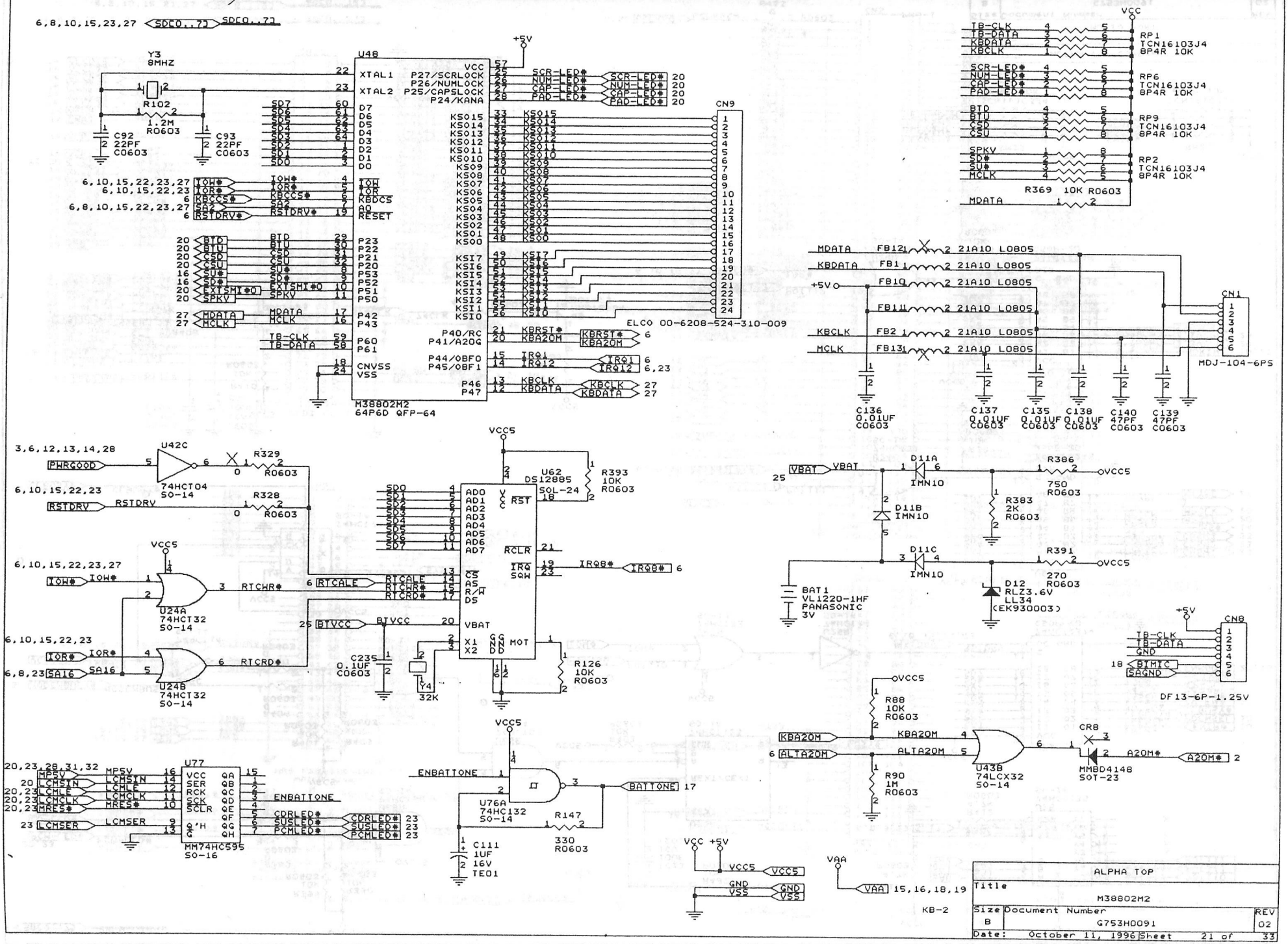
	ALPHA TOP		
	Title: SOUND JACK		
SND-4	Size: B	Document Number: G753H0091	REV: 02
	Date: October 11, 1996	Sheet 18 of 33	

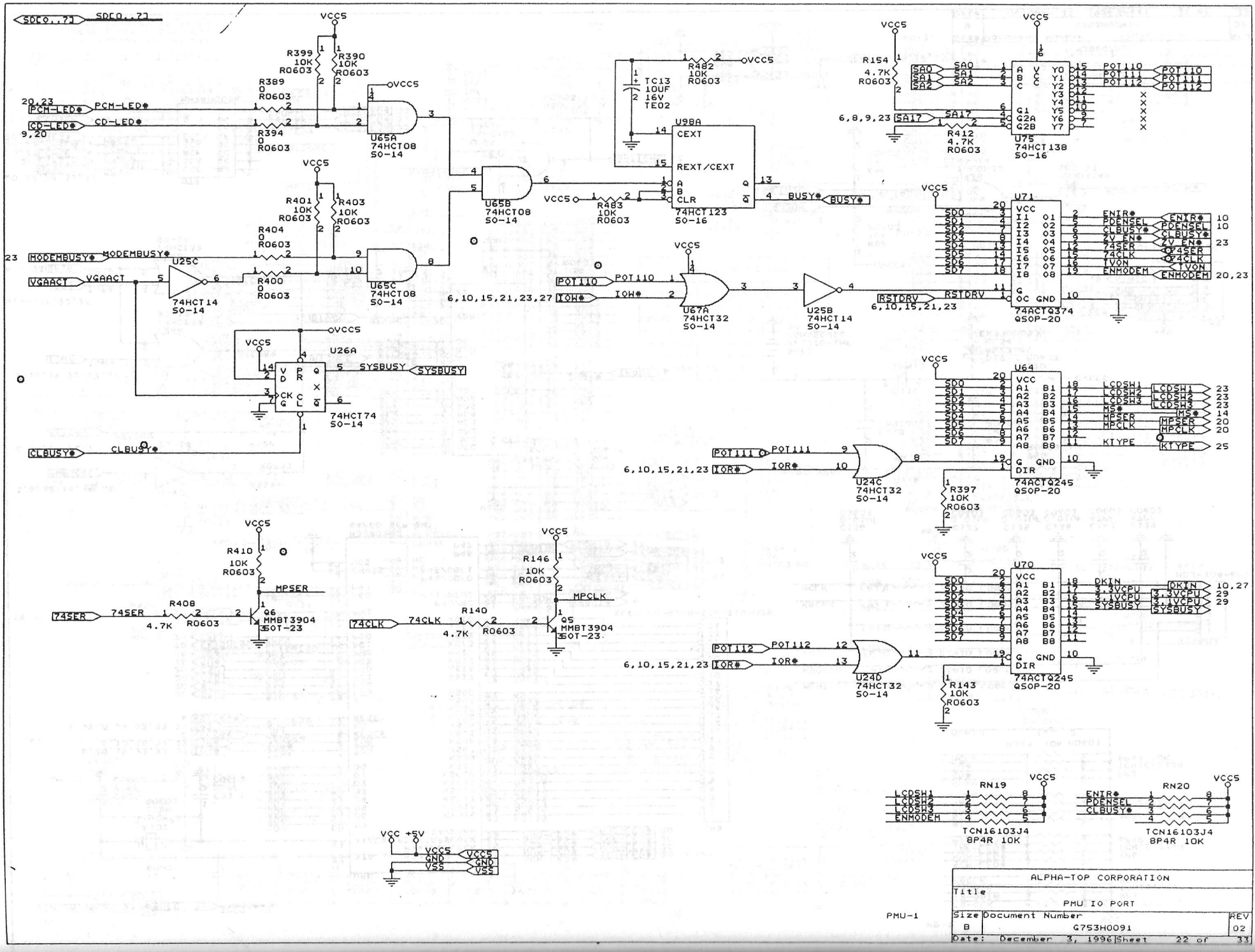


	ALPHA-TOP
Title	WAVETABLE
Size B	Document Number G753H0091 REV 02
Date: October 11, 1996	Sheet 19 of 33

SND-5


REMOVE FOR LTC690/694
U80
MAX706CSA
SO-8 (LTC690/694)
R415 0 R0603
R420 10K R0603
R158 100K R0603
MRES*
MM
21,23
U85
H6060
SO-8
R166 150K R0603
C119 0.001UF C0603
R176 10K R0603
Y5 .210MHZ
R167 1.2M R0603
C115 22PF C0603
C118 22PF C0603
U88
H374515FP
80P6N
XTAL1
XTAL2
RESET
VCC
AVCC
DAVREF
ADVREF
VSS
AVSS
R168 10K R0603
R169 100K R0603
R170 10K R0603
L35 L1206 TDK HF70ACB-321611
L36 L1206 TDK HF70ACB-321611
BC214 0.1UF C0603
BC216 0.1UF C0603
+5VA
+5VP
R177 1K R0603
CR7 MMBD4148 SOT-23
R228 30K 1% R0603
R229 10K 1% R0603
R221 100 R0603
C124 0.1UF C0603
C125 0.1UF C0603
R222 10K R0603
R223 RA 110K R0603
R214 27K R0603 RB
VTEMP
VFULL
-dV
CPU-T
BTID
DVA
PCBID
CD-T
BL
PWR-ON#
LCMLE
LCMSIN
LCMCLK
CHG#
EXTSMI#1
RD#
WR
R/W
SYNC
RESETOUT
CNVSS
CON-ADJ
BLT-ADJ
P-OFF*
28
Q14 2N7002 SOT-23
Q15 2N7002 SOT-23
R193 10K R0603
R194 10K R0603
R184 10K R0603
CR4 MMBD4148 SOT-23
DKGND#
RP8 TCN16102J4 8P4R 1K
R159 100K R0603
IDE-LED*
CD-LED*
CCS*
R200 10K 1% R0603
R195 R 1% R0603
R213 TH20-3H103FT 1% R0805
THERMAL RES T=25 10K T UP, R DOWN
RESERVED
R488 10K 1% R0603
R489 R 1% R0603
R490 TH20-3H103FT 1% R0805
U82
27C256
AMP 821977-1
PLCC-32
RP7 TCN16103J4 8P4R 10K
RP5 TCN16103J4 8P4R 10K
R149 10K R0603
R148 4.7K R0603
Q7 MMBT3904 SOT-23
R155 4.7K R0603
U81
U79
74ACT6245
QSOP-20
R421 1K R0603
R413 1K R0603
U78D 74HCT32
U78A 74HCT32
U78B 74HCT32
SO-14
U65D 74HCT08
SO-14
5FFF
3FFF
EXTSMI#0
EXTSMI#1
EXTSMI*
PCB ID SELECTION
RA(R223) 0 20K 110K
RB(R214) X 2.2K 27K
VOLTAGE 5 4.5 4.0
PCB VER 00 01 02
BC102 0.1UF C0603
BC212 0.1UF C0603
BC209 0.1UF C0603
BC99 0.1UF C0603
BC100 0.1UF C0603
BC211 0.1UF C0603
BCA49 0.1UF C0603
BCA48 0.1UF C0603
GND
VCC +5V
ALPHA TOP
Title
MICRO PROCESSOR,ROM
Size B
Document Number G753H0091
REV 02
Date: November 29, 1996 Sheet 20 of 33
KB-1


6,8,10,15,23,27 SDC0..7 SDC0..7
Y3 8MHZ
U48
M38802M2 64P6D QFP-64
+5V
VCC
XTAL1
XTAL2
P27/SCRLOCK
P26/NUMLOCK
P25/CAPSLOCK
P24/KANA
SCR-LED*
NUM-LED*
CAP-LED*
PAD-LED*
R102 1.2M R0603
C92 22PF C0603
C93 22PF C0603
SD7 SD6 SD5 SD4 SD3 SD2 SD1 SD0
D7 D6 D5 D4 D3 D2 D1 D0
6,10,15,22,23,27 IOW*
6,10,15,22,23 IOR*
KBDCS*
6,8,10,15,22,23,27 SA2
RSTDRV*
RESET
BTD BTU CSD CSU SU* SD* EXTSMI#0 SPKV
P23 P22 P21 P20 P53 P52 P51 P50
MDATA MCLK
P42 P43
TB-CLK TB-DATA
P60 P61
CNVSS VSS
P40/RC P41/A20G
P44/OBF0 P45/OBF1
P46 P47
KBRST* KBA20M
IRQ1 IRQ12
KBCLK KBDATA
CN9
KS015 KS014 KS013 KS012 KS011 KS010 KS09 KS08 KS07 KS06 KS05 KS04 KS03 KS02 KS01 KS00
KSI7 KSI6 KSI5 KSI4 KSI3 KSI2 KSI1 KSI0
ELCO 00-6208-524-310-009
TB-CLK TB-DATA KBDATA KBCLK
SCR-LED* NUM-LED* CAP-LED* PAD-LED*
RP1 TCN16103J4 8P4R 10K
RP6 TCN16103J4 8P4R 10K
BTD BTU CSD CSU
RP9 TCN16103J4 8P4R 10K
SPKV SD* SU* MCLK
RP2 TCN16103J4 8P4R 10K
R369 10K R0603
MDATA
MDATA KBDATA +5V KBCLK MCLK
FB12 FB11 FB10 FB9 FB2 FB13
2 21A10 L0805
CN1
MDJ-104-6PS
C136 0.01UF C0603
C137 0.01UF C0603
C135 0.01UF C0603
C138 0.01UF C0603
C140 47PF C0603
C139 47PF C0603
3,6,12,13,14,28 PWRGOOD
U42C 74HCT04 SO-14
R329 0 R0603
6,10,15,22,23 RSTDRV
R328 0 R0603
VCC5
U62 DS12885 SOL-24
R393 10K R0603
SD0 SD1 SD2 SD3 SD4 SD5 SD6 SD7
AD0 AD1 AD2 AD3 AD4 AD5 AD6 AD7
VCC RST RCLR IRQ SQW VBAT X1 X2 GND MOT DS R/W AS CS
IRQ8* IRQ8*
6,10,15,22,23,27 IOW*
U24A 74HCT32 SO-14
RTCWR*
RTCALE RTCWR* RTCRD*
6,10,15,22,23 IOR*
6,8,23 SA16
U24B 74HCT32 SO-14
RTCRD*
25 BTVCC
C235 0.1UF C0603
Y4 32K
R126 10K R0603
VBAT
D11A IMN10
D11B IMN10
D11C IMN10
R386 750 R0603
R383 2K R0603
R391 270 R0603
D12 RLZ3.6V LL34 (EK930003)
BAT1 VL1220-1HF PANASONIC 3V
+5V
CN8
TB-CLK TB-DATA GND BTMIC SAGND
DF13-6P-1.25V
R88 10K R0603
KBA20M ALTA20M
U43B 74LCX32 SO-14
CR8 MMBD4148 SOT-23
A20M*
R90 1M R0603
20,23,28,31,32 MPSV
20 LCMSIN
20,23 LCMLE LCMCLK MRES*
23 LCMSER
U77 MM74HC595 SO-16
VCC SER RCK SCK SCLR G'H QA QB QC QD QE QF QG QH
ENBATTONE
CDRLED* SUSLED* PCMLED*
ENBATTONE
U76A 74HC132 SO-14
BATTONE 17
R147 330 R0603
C111 1UF 16V TE01
VCC +5V VCC5 GND VSS
VAA 15,16,18,19
KB-2
ALPHA TOP
Title M38802M2
Size B
Document Number G753H0091
REV 02
Date: October 11, 1996 Sheet 21 of 33



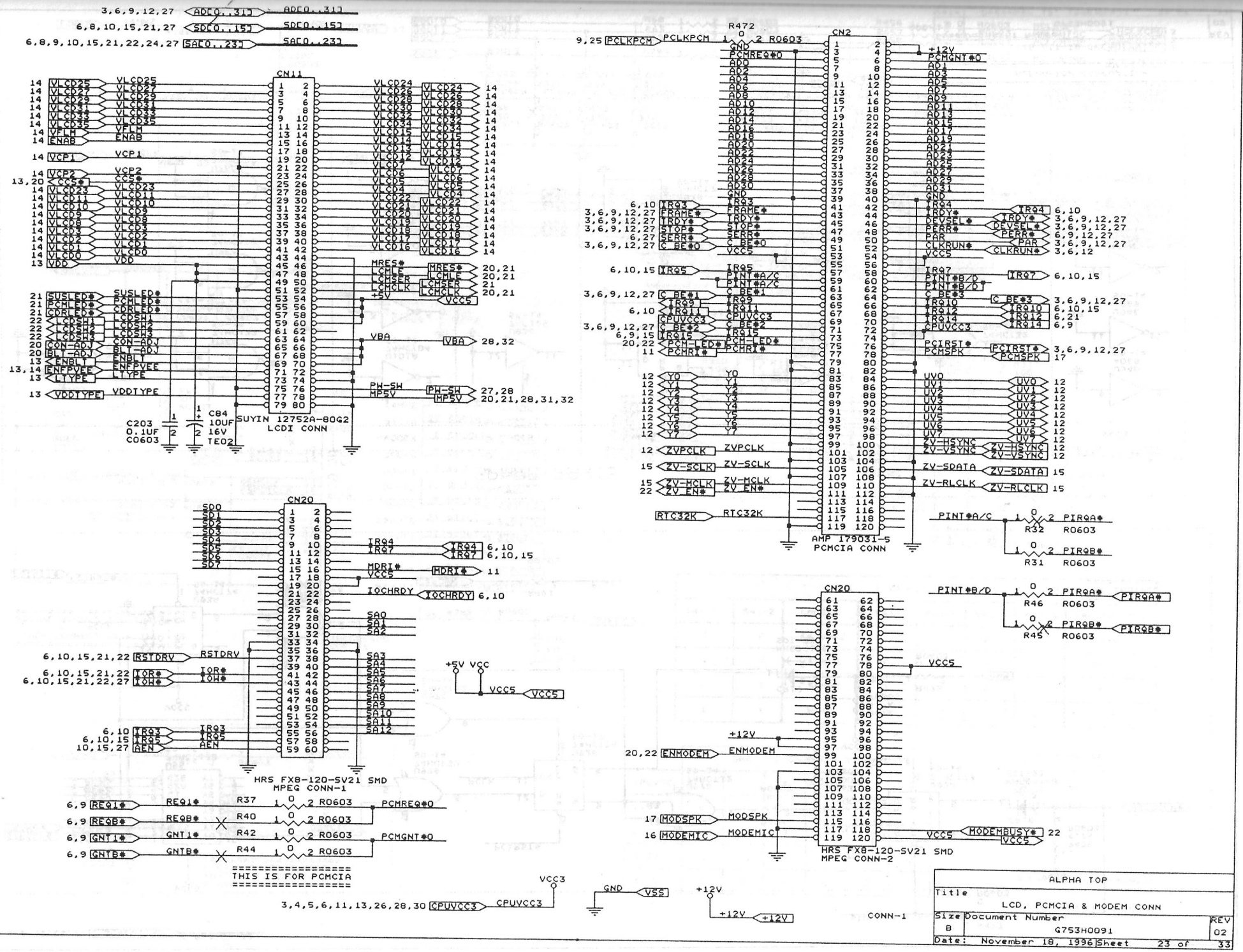
ALPHA-TOP CORPORATION

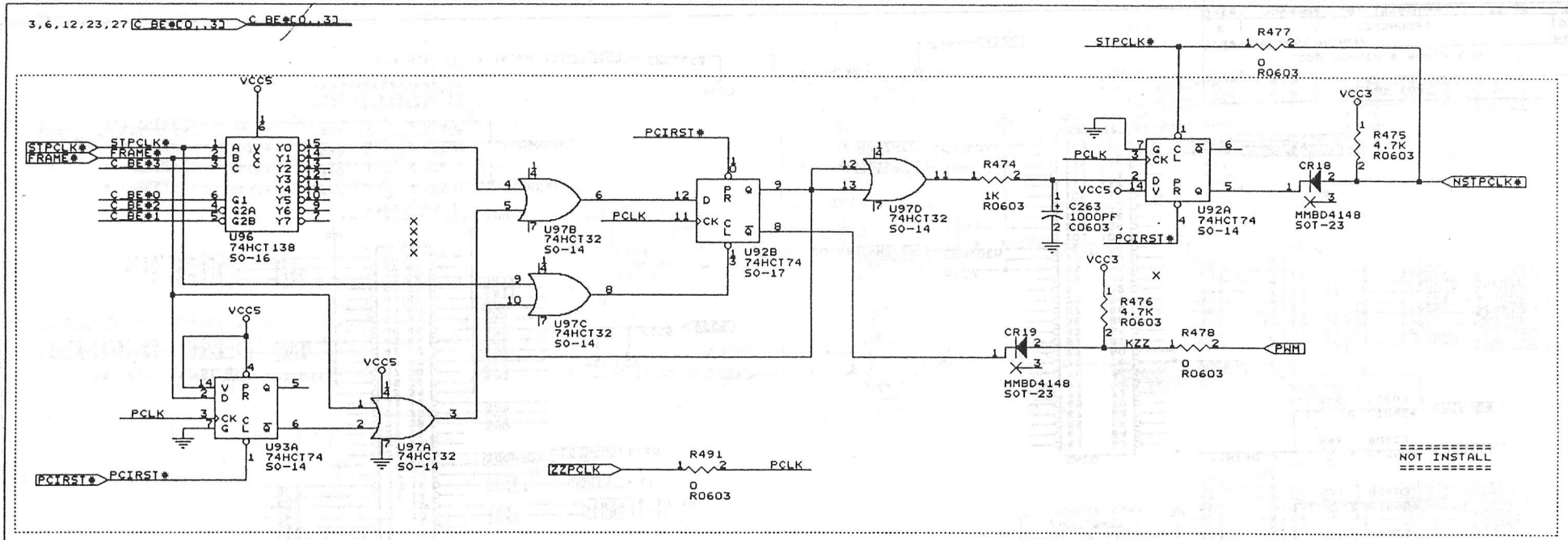
Title: PMU IO PORT

PMU-1

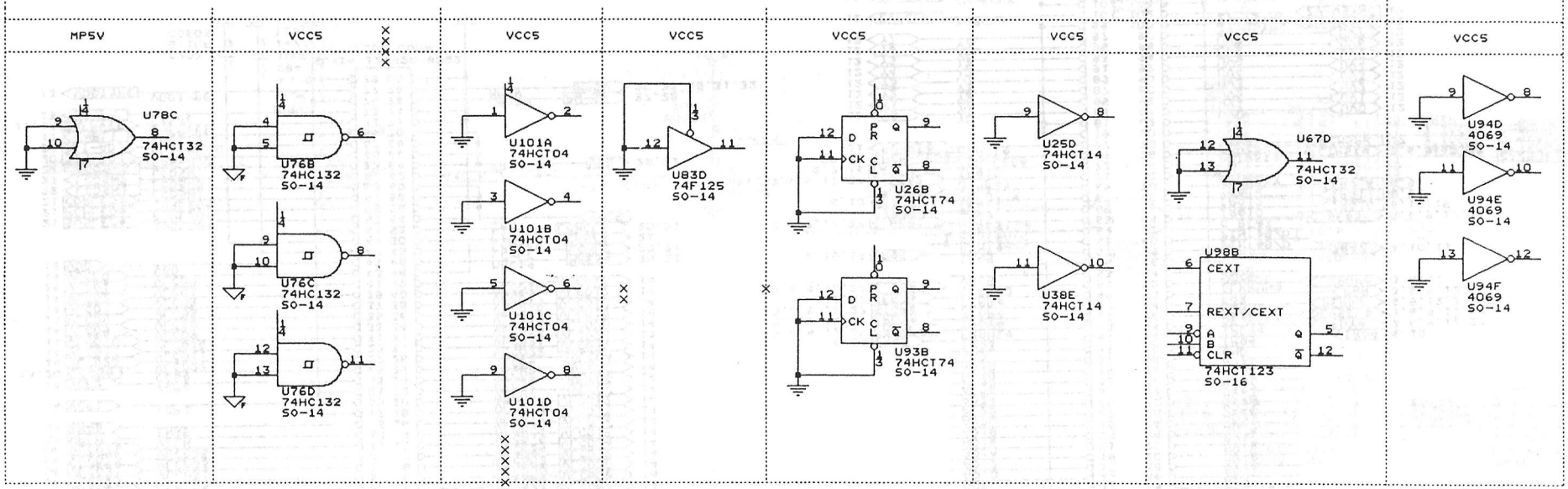
Size	Document Number	REV
B	G753H0091	02

Date: December 3, 1996 Sheet 22 of 33


CN11
SUYIN 12752A-80G2
LCDI CONN
CN2
AMP 179031-5
PCMCIA CONN
CN20
HRS FX8-120-SV21 SMD
MPEG CONN-1
CN20
HRS FX8-120-SV21 SMD
MPEG CONN-2
THIS IS FOR PCMCIA
CONN-1
ALPHA TOP
LCD, PCMCIA & MODEM CONN
G753H0091
November 18, 1996
23 of 33



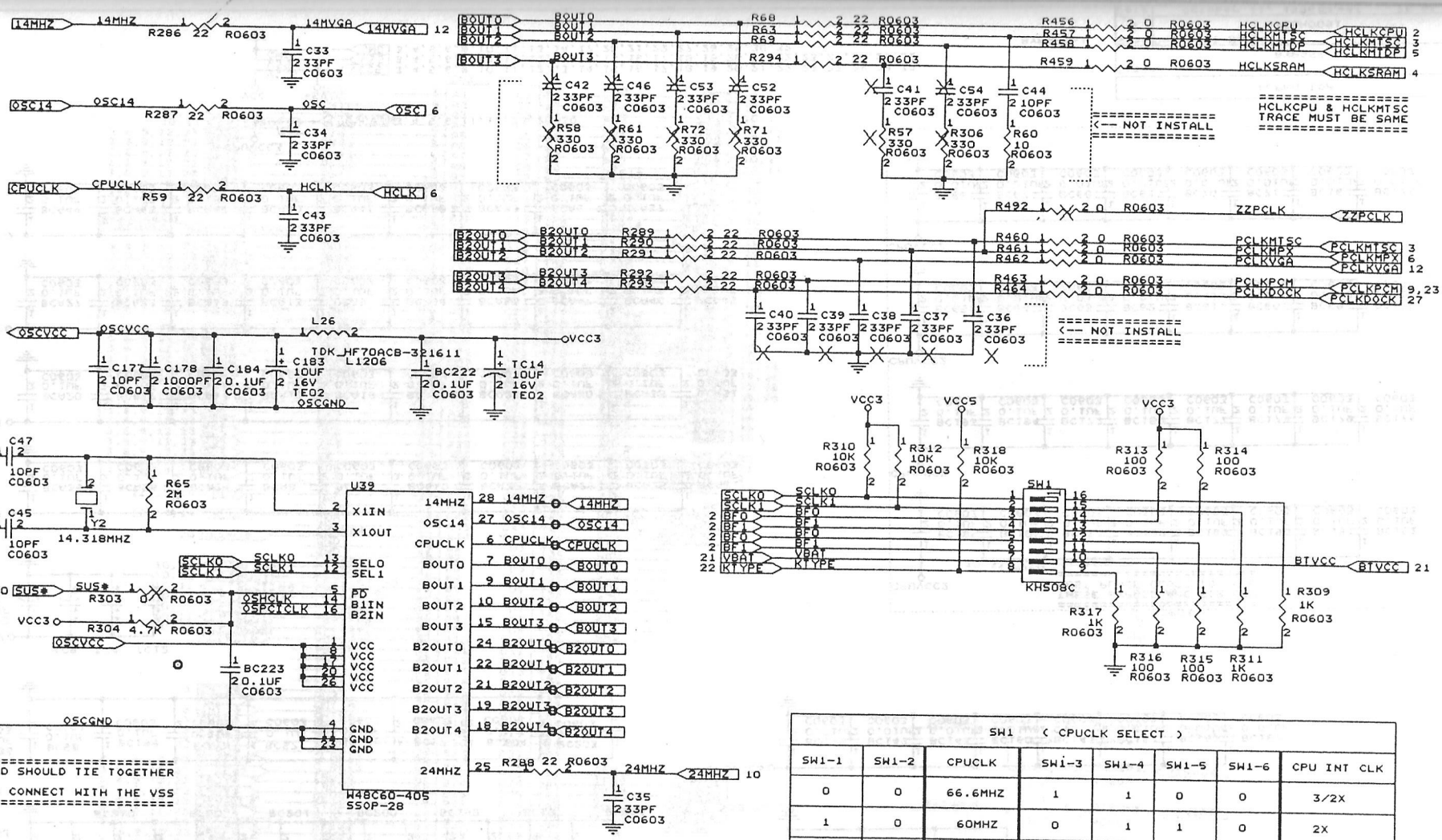
SPARE PARTS



SAGND
GND
VSS

ALPHA-TOP CORPOATION		
Title: 16 BIT IO DECODING		
Size: B	Document Number: G753H0091	REV: 02
Date: December 12, 1996	Sheet 24 of 33	

ADD-1



SW1 (CPUCLK SELECT)							
SW1-1	SW1-2	CPUCLK	SW1-3	SW1-4	SW1-5	SW1-6	CPU INT CLK
0	0	66.6MHZ	1	1	0	0	3/2X
1	0	60MHZ	0	1	1	0	2X
0	1	50MHZ	1	0	0	1	3X
1	1	HI-Z	0	0	1	1	5/2X

	SW2 (CPUVCC SELECT)					
CPUVCC	1	2	3	4	5	6
2.5V	0	0	0	0	1	0
2.9V	0	1	0	0	1	0
3.1V	1	0	0	0	1	0
3.3V	0	0	1	0	0	1

1 : ON
0 : OFF

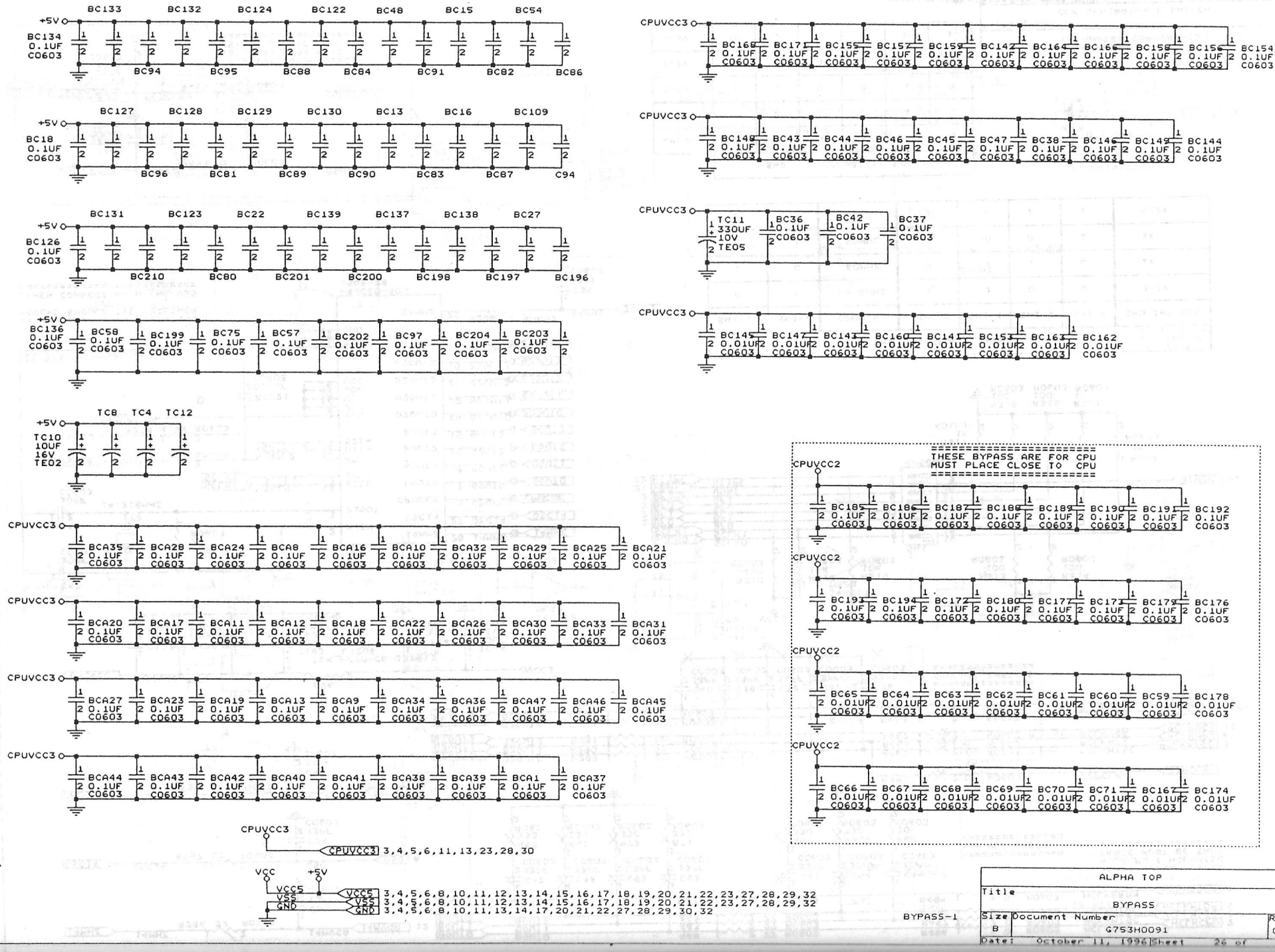
ALPHA-TOP CORPORARION

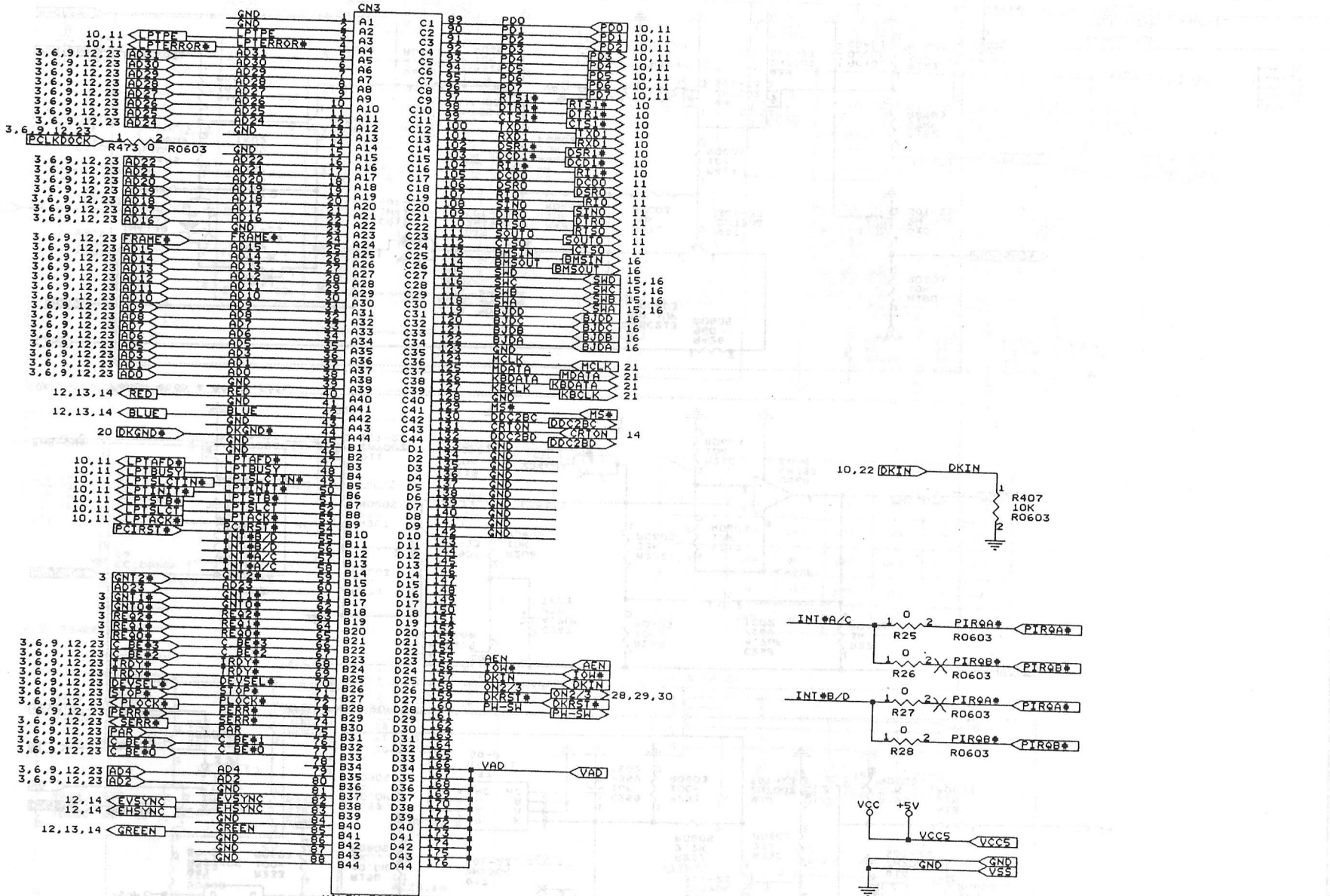
Title: CLK GENERATOR & SWITCH

Size	Document Number	REV
B	G753H0091	02

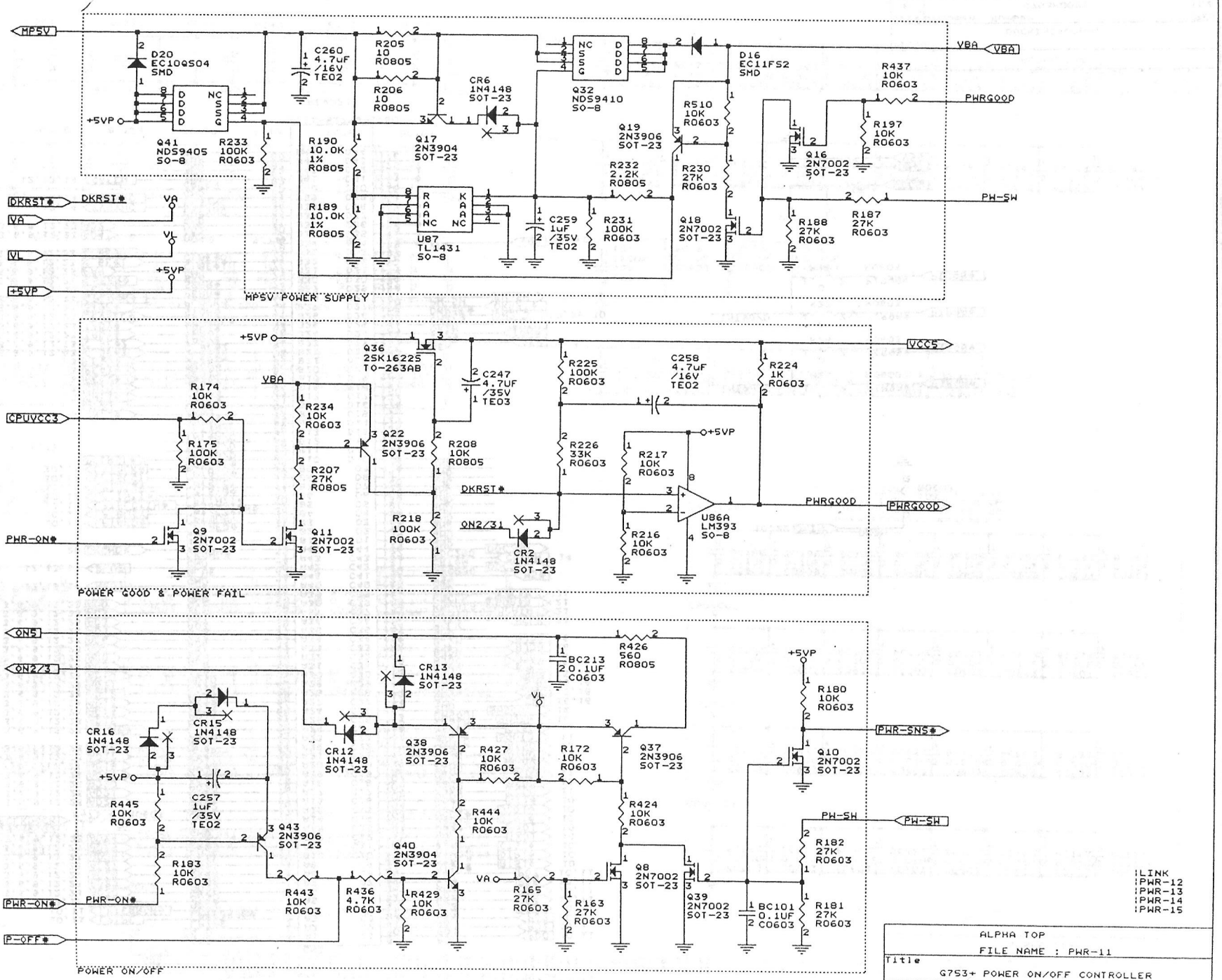
Date: December 16, 1996 Sheet 25 of 33

CLK-1


+5V
BC133 BC132 BC124 BC122 BC48 BC15 BC54
BC134 0.1UF C0603
BC94 BC95 BC88 BC84 BC91 BC82 BC86
BC127 BC128 BC129 BC130 BC13 BC16 BC109
BC18 0.1UF C0603
BC96 BC81 BC89 BC90 BC83 BC87 C94
BC131 BC123 BC22 BC139 BC137 BC138 BC27
BC126 0.1UF C0603
BC210 BC80 BC201 BC200 BC198 BC197 BC196
BC136 0.1UF C0603
BC58 0.1UF C0603 BC199 0.1UF C0603 BC75 0.1UF C0603 BC57 0.1UF C0603 BC202 0.1UF C0603 BC97 0.1UF C0603 BC204 0.1UF C0603 BC203 0.1UF C0603
TC8 TC4 TC12
TC10 10UF 16V TE02
CPUVCC3
BCA35 0.1UF C0603 BCA28 0.1UF C0603 BCA24 0.1UF C0603 BCA8 0.1UF C0603 BCA16 0.1UF C0603 BCA10 0.1UF C0603 BCA32 0.1UF C0603 BCA29 0.1UF C0603 BCA25 0.1UF C0603 BCA21 0.1UF C0603
BCA20 0.1UF C0603 BCA17 0.1UF C0603 BCA11 0.1UF C0603 BCA12 0.1UF C0603 BCA18 0.1UF C0603 BCA22 0.1UF C0603 BCA26 0.1UF C0603 BCA30 0.1UF C0603 BCA33 0.1UF C0603 BCA31 0.1UF C0603
BCA27 0.1UF C0603 BCA23 0.1UF C0603 BCA19 0.1UF C0603 BCA13 0.1UF C0603 BCA9 0.1UF C0603 BCA34 0.1UF C0603 BCA36 0.1UF C0603 BCA47 0.1UF C0603 BCA46 0.1UF C0603 BCA45 0.1UF C0603
BCA44 0.1UF C0603 BCA43 0.1UF C0603 BCA42 0.1UF C0603 BCA40 0.1UF C0603 BCA41 0.1UF C0603 BCA38 0.1UF C0603 BCA39 0.1UF C0603 BCA1 0.1UF C0603 BCA37 0.1UF C0603
BC168 0.1UF C0603 BC17 0.1UF C0603 BC155 0.1UF C0603 BC157 0.1UF C0603 BC158 0.1UF C0603 BC142 0.1UF C0603 BC164 0.1UF C0603 BC166 0.1UF C0603 BC156 0.1UF C0603 BC154 0.1UF C0603
BC148 0.1UF C0603 BC43 0.1UF C0603 BC44 0.1UF C0603 BC46 0.1UF C0603 BC45 0.1UF C0603 BC47 0.1UF C0603 BC38 0.1UF C0603 BC146 0.1UF C0603 BC149 0.1UF C0603 BC144 0.1UF C0603
TC11 330UF 10V TE05
BC36 0.1UF C0603
BC42 0.1UF C0603
BC37 0.1UF C0603
BC145 0.01UF C0603 BC147 0.01UF C0603 BC143 0.01UF C0603 BC160 0.01UF C0603 BC141 0.01UF C0603 BC153 0.01UF C0603 BC163 0.01UF C0603 BC162 0.01UF C0603
THESE BYPASS ARE FOR CPU
MUST PLACE CLOSE TO CPU
CPUVCC2
BC185 0.1UF C0603 BC186 0.1UF C0603 BC187 0.1UF C0603 BC188 0.1UF C0603 BC189 0.1UF C0603 BC190 0.1UF C0603 BC19 0.1UF C0603 BC192 0.1UF C0603
BC193 0.1UF C0603 BC194 0.1UF C0603 BC172 0.1UF C0603 BC180 0.1UF C0603 BC177 0.1UF C0603 BC171 0.1UF C0603 BC179 0.1UF C0603 BC176 0.1UF C0603
BC65 0.01UF C0603 BC64 0.01UF C0603 BC63 0.01UF C0603 BC62 0.01UF C0603 BC61 0.01UF C0603 BC60 0.01UF C0603 BC59 0.01UF C0603 BC178 0.01UF C0603
BC66 0.01UF C0603 BC67 0.01UF C0603 BC68 0.01UF C0603 BC69 0.01UF C0603 BC70 0.01UF C0603 BC71 0.01UF C0603 BC167 0.01UF C0603 BC174 0.01UF C0603
CPUVCC3
CPUVCC3 3,4,5,6,11,13,23,28,30
VCC +5V
VCC5 VCC5 3,4,5,6,8,10,11,12,13,14,15,16,17,18,19,20,21,22,23,27,28,29,32
VSS VSS 3,4,5,6,8,10,11,12,13,14,15,16,17,18,19,20,21,22,23,27,28,29,32
GND GND 3,4,5,6,8,10,11,13,14,17,20,21,22,27,28,29,30,32
BYPASS-1
ALPHA TOP
Title
BYPASS
Size B
Document Number G753H0091
REV 02
Date: October 11, 1996 Sheet 26 of 33



ALPHA TOP		
Title	DOCKING CONN.	
Size B	Document Number G753H0091	REV 02
Date: December 5, 1996	Sheet 27 of 33	



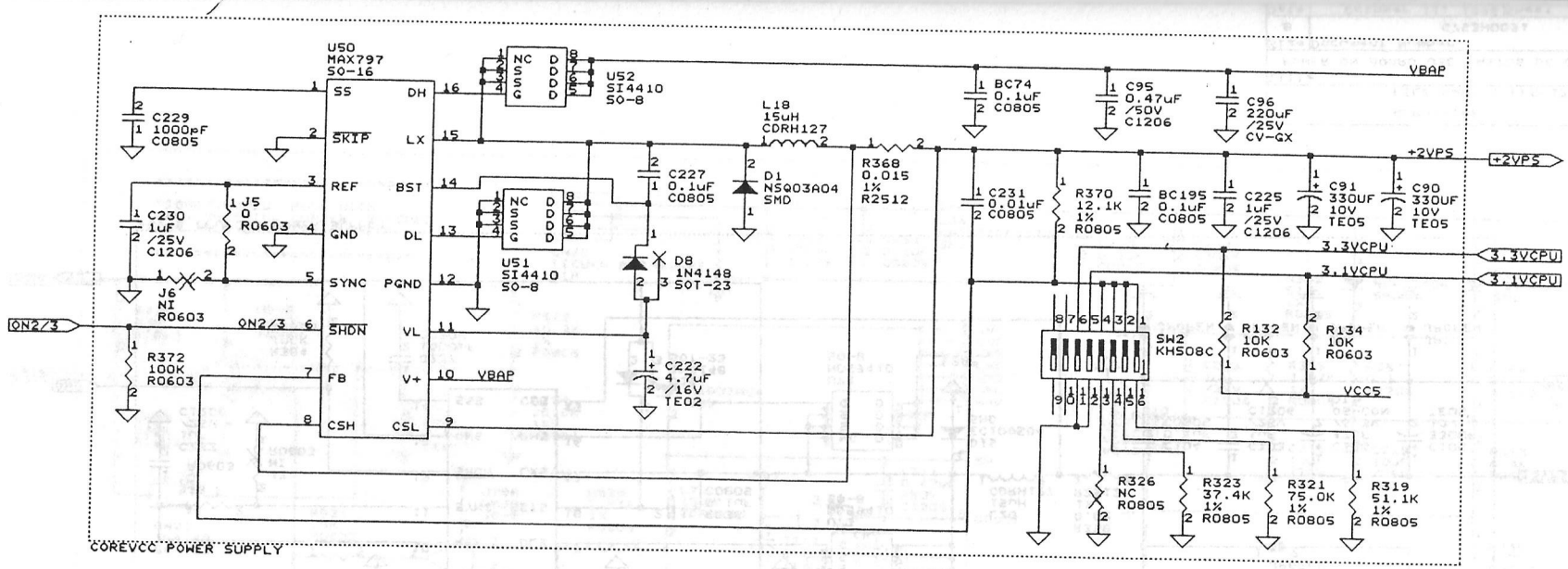
ALPHA TOP

FILE NAME : PWR-11

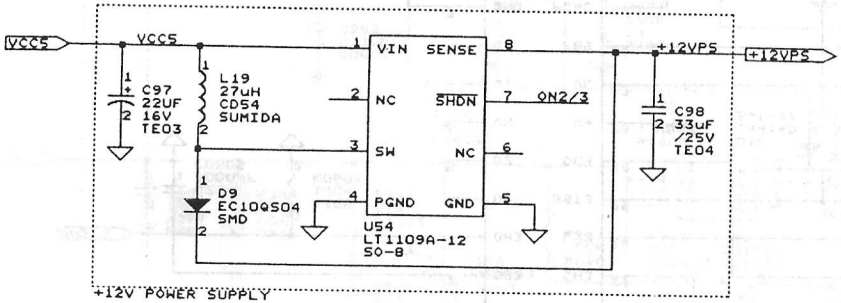
Title

G753+ POWER ON/OFF CONTROLLER

Size	Document Number	REV
B	G753H0091	02

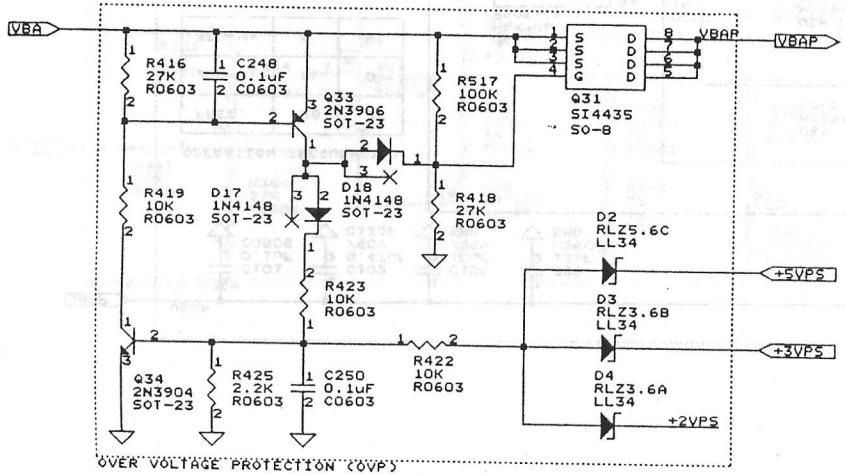


COREVCC POWER SUPPLY

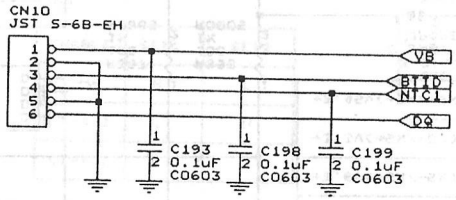


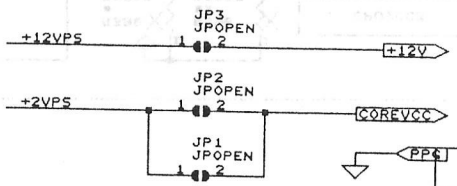
+12V POWER SUPPLY

	SW2					
CPUVCC	1	2	3	4	5	6
2.5V	OFF	OFF	OFF	OFF	ON	OFF
2.9V	OFF	ON	OFF	OFF	ON	OFF
3.1V	ON	OFF	OFF	OFF	ON	OFF
3.3V	OFF	OFF	ON	OFF	OFF	ON



OVER VOLTAGE PROTECTION (OVP)





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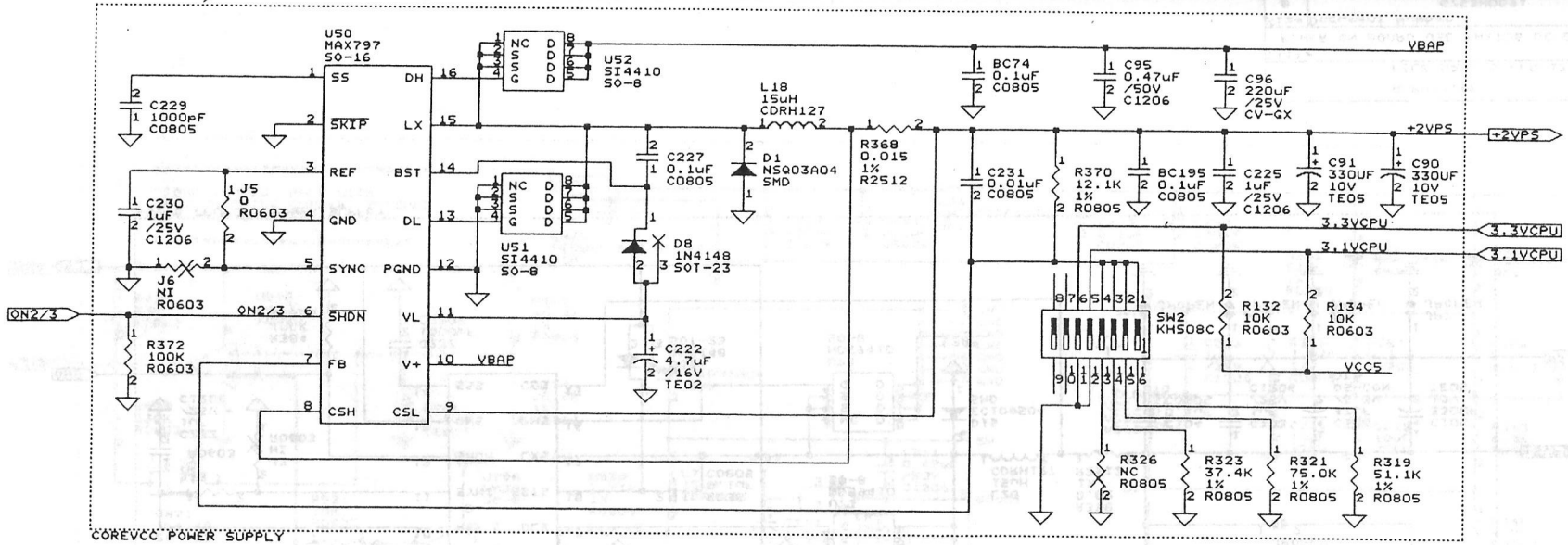
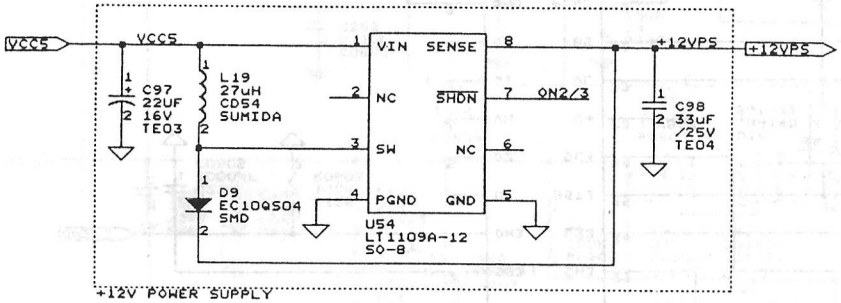
FILE NAME : PWR-12

Title
POWER ON BOARD MAX797&LT1109 DC-DC FOR G753+

Size | Document Number | REV
B

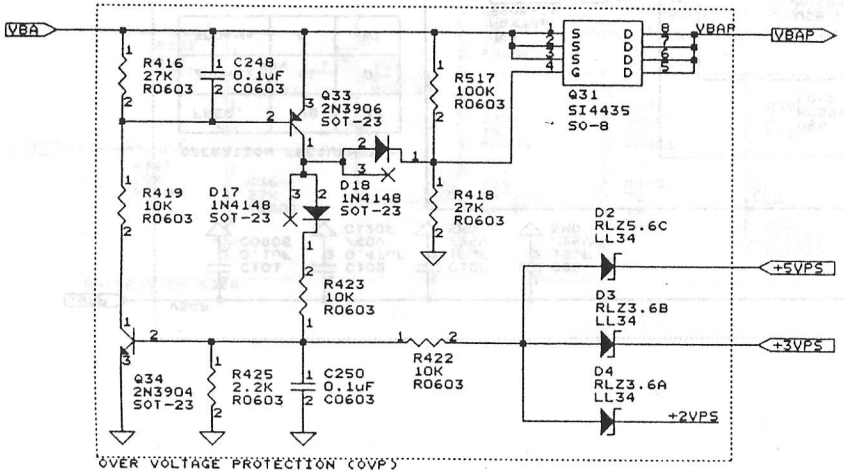


COREVCC POWER SUPPLY

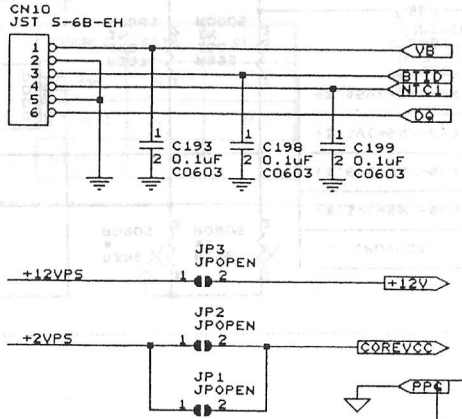


+12V POWER SUPPLY

	SW2					
CPUVCC	1	2	3	4	5	6
2.5V	OFF	OFF	OFF	OFF	ON	OFF
2.9V	OFF	ON	OFF	OFF	ON	OFF
3.1V	ON	OFF	OFF	OFF	ON	OFF
3.3V	OFF	OFF	ON	OFF	OFF	ON



OVER VOLTAGE PROTECTION (OVP)



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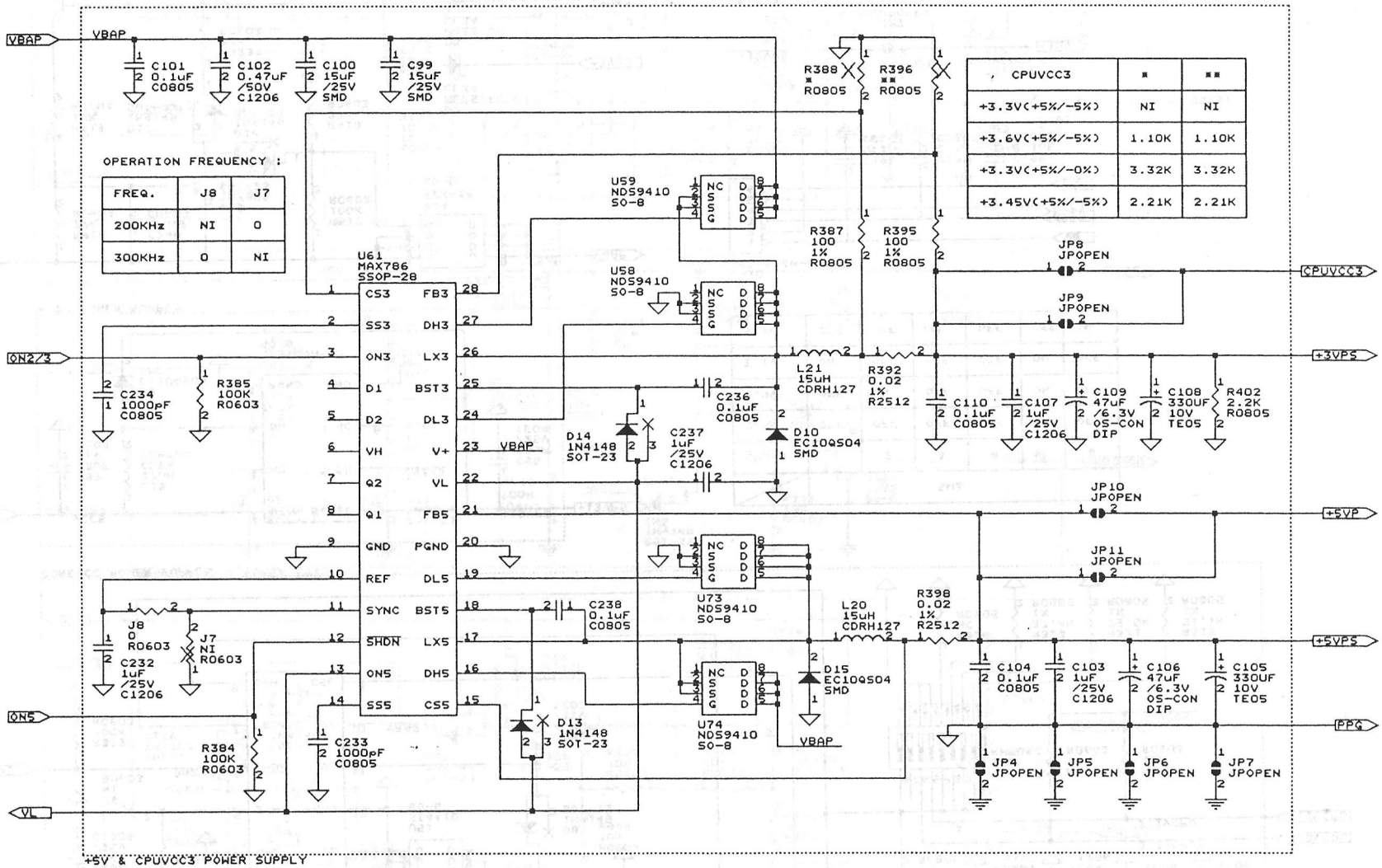
FILE NAME : PWR-12

Title	POWER ON BOARD MAX797&LT1109 DC-DC FOR G753+	
Size: B	Document Number: G753H0091	REV: 02
Date: October 11, 1996	Sheet 29 of 33	



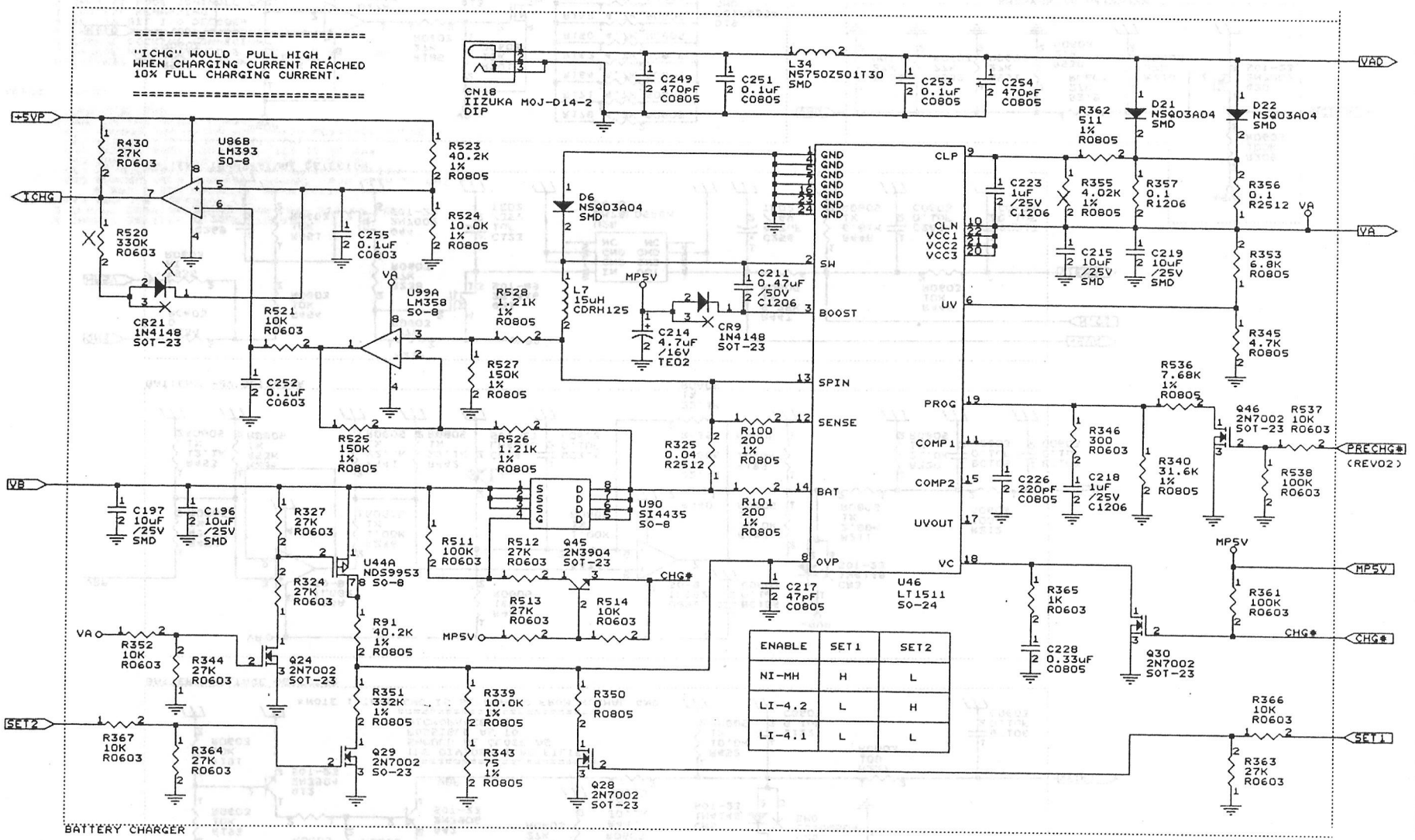
ALPHA-TOP

FILE NAME : PWR-13

Title: POWER ON BOARD USE MAX786 DC-DC FOR G753+

Size	Document Number	REV
B	G753H0091	02

Date: October 11, 1996 Sheet 30 of 33



ENABLE	SET1	SET2
NI-MH	H	L
LI-4.2	L	H
LI-4.1	L	L

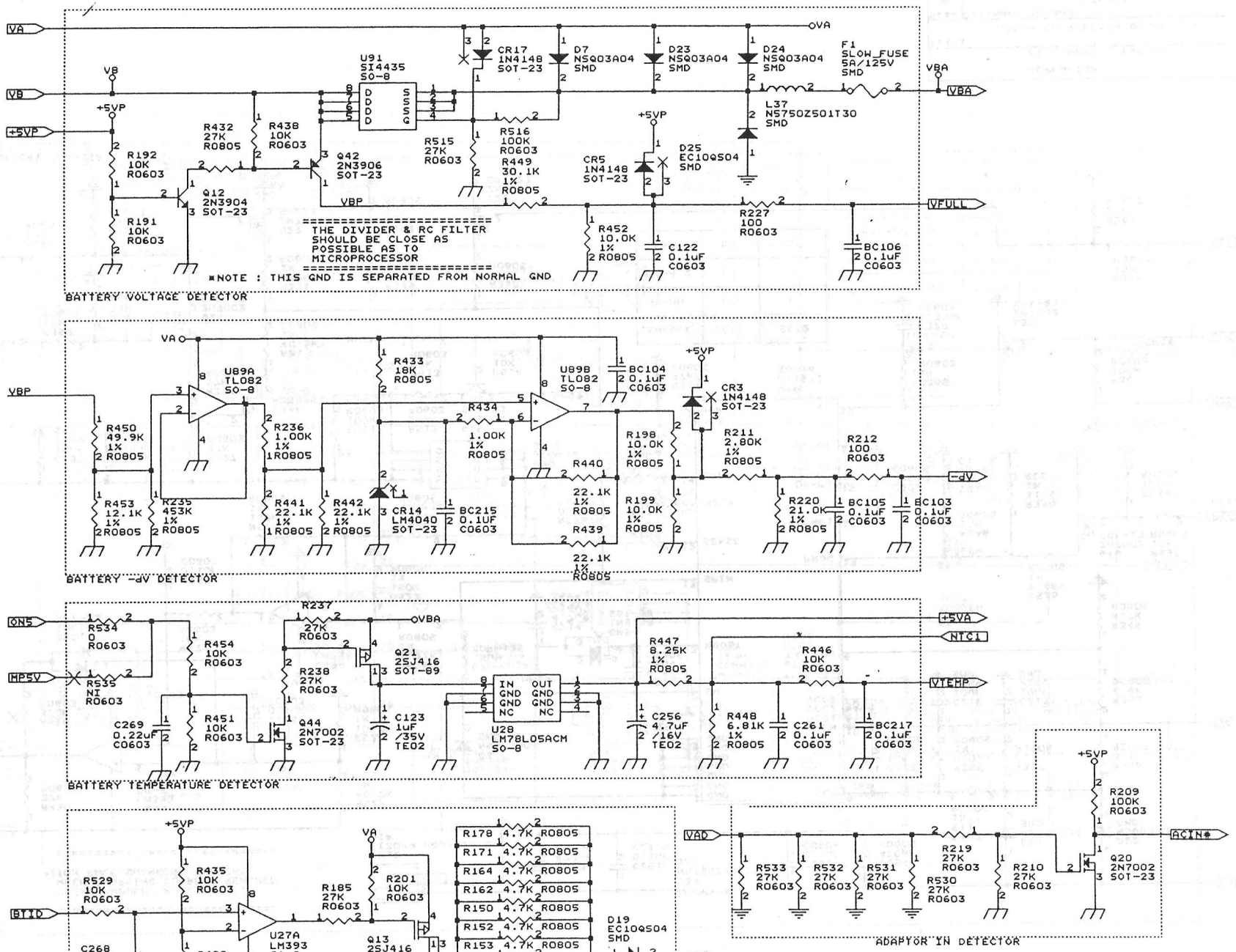
ALPHA-TOP

FILE NAME : PWR-14

Title: G753+ CHARGER ON BOARD (1)

Size	Document Number	REV
B	G753H0091	02

Date: November 29, 1996 Sheet 31 of 33


BATTERY VOLTAGE DETECTOR
THE DIVIDER & RC FILTER SHOULD BE CLOSE AS POSSIBLE AS TO MICROPROCESSOR
*NOTE : THIS GND IS SEPARATED FROM NORMAL GND
BATTERY -dV DETECTOR
BATTERY TEMPERATURE DETECTOR
TRICKLE CHARGE CONTROL CIRCUIT
ADAPTOR IN DETECTOR
ALPHA TOP
FILE NAME : PWR-15
Title
G753+ CHARGER ON BOARD (2)
Size B
Document Number G753H0091
REV 02
Date: November 18, 1996 Sheet 32 of 33

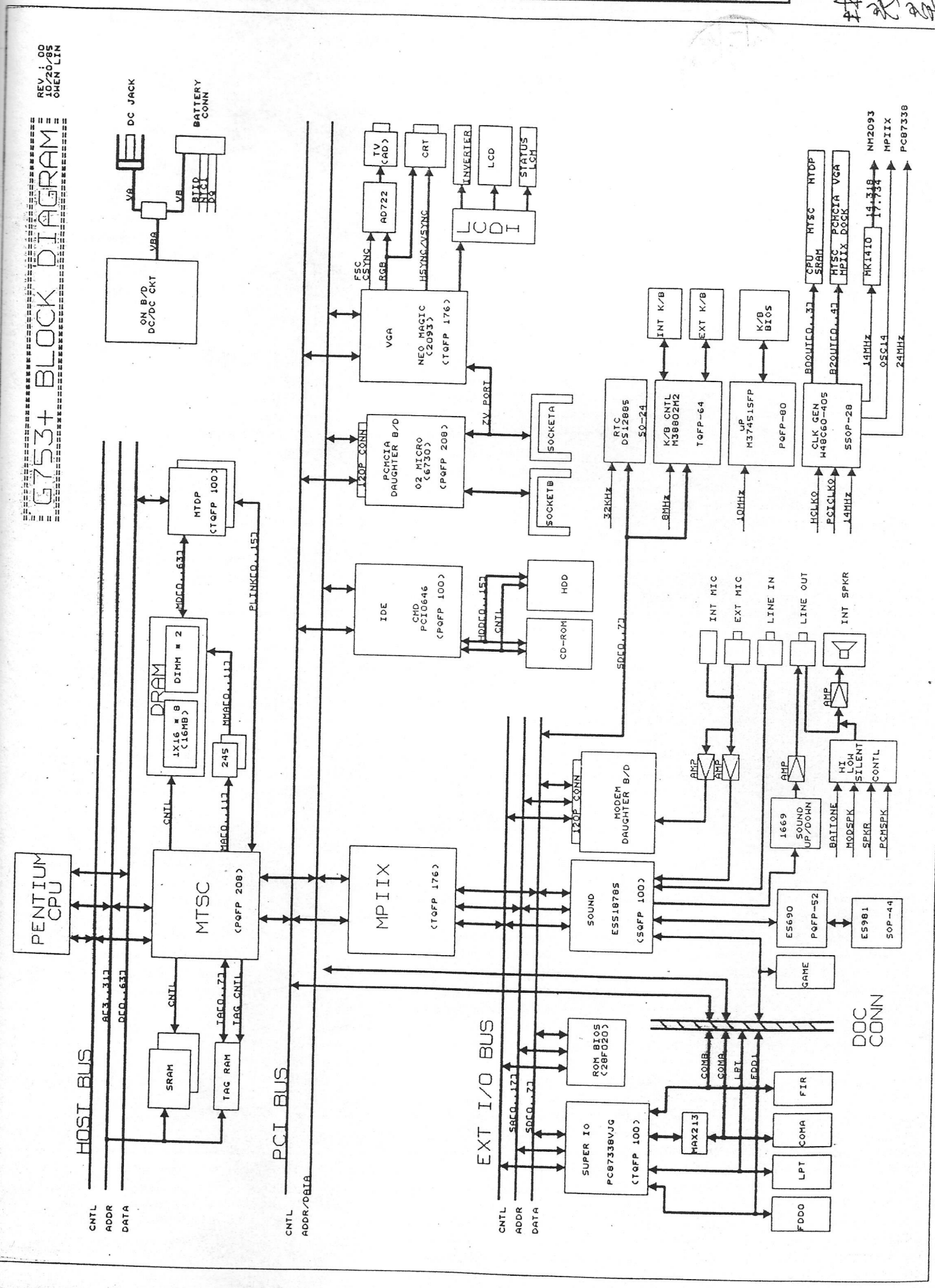
HISTORY

REV01 : 8/30/85

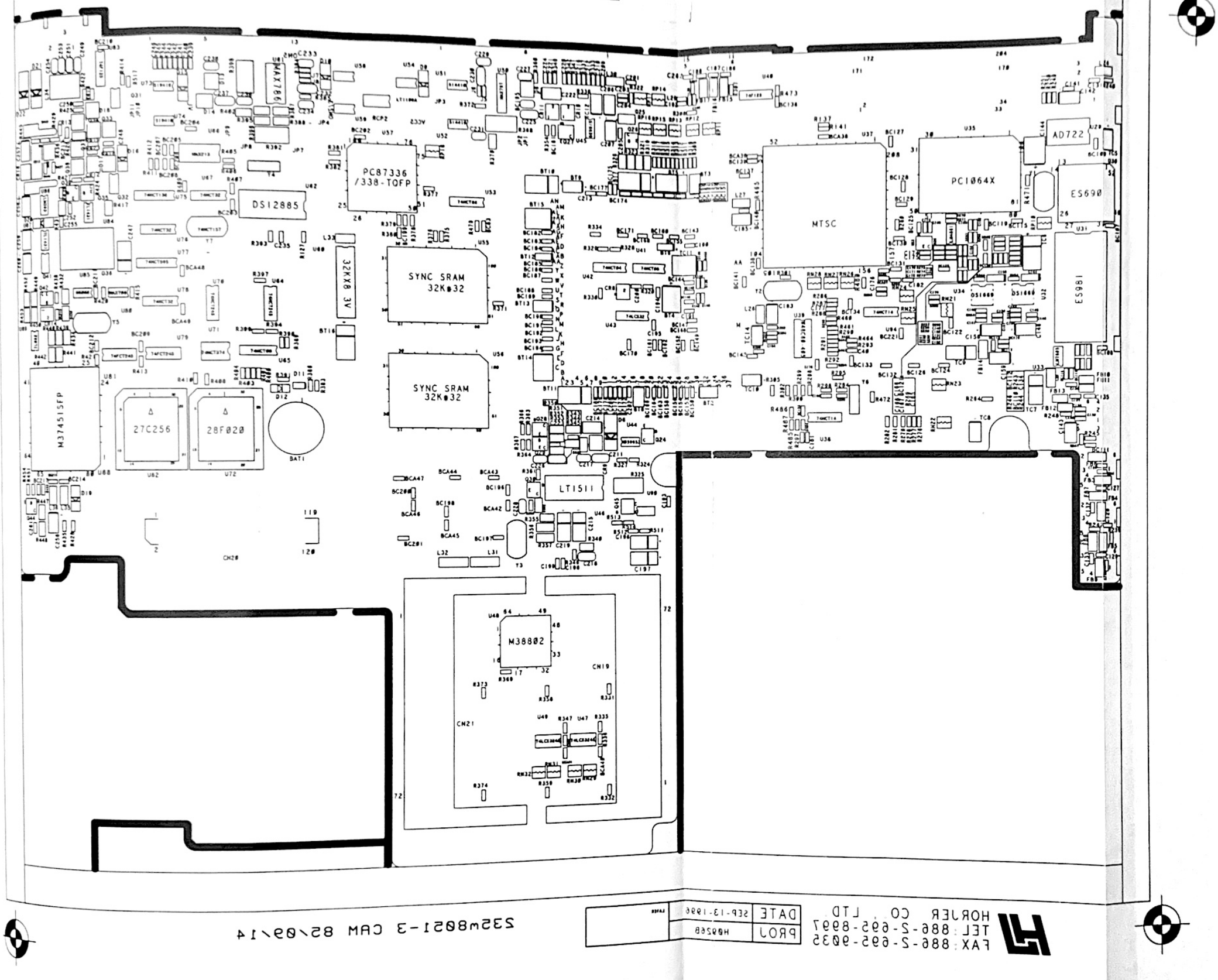
1.ERRATA 27
2.SRAM ZZ MODE CONTROLL LOGIC
3.LCD I/F REMAPPING
4.DEL 16 BIT I/O DECODER
5.CHANGE CLOCK GENERATOR TO SMALL SIZE
6.CHANGE DOCKING CONNECTOR
7.CHANGE NM2093 NMVDD & DVDD FROM 5V TO 3V
8.A28-A31 PULL UP & DOWN

REV02 : 10/23

1.ADD TEST PAD
2.ADD IN THE REV01 REWORK
 (1) CHANGE THE SOUND AMP RATIO RESISTOR VALUE
 (2) ADD 0.1U & 4.7K TO FIR CKT
 (3) CHANGE R281,R282 FROM 150 TO 33 ohm
 (4) CHANGE L7 FROM DO3316P TO MCDRH125
 (5) RE-ALLOCATE PIRQ/REQ RESISTOR LOCATION
 (6) CHANGE +5VA CONTROLL SIGNAL FROM MP5V TO ON2/3
  & ADD 0.22U PARPLLEL WITH R451
 (7) ADD THE PRECHAGE CKT
3.CHANGE ERRATA#27 SOLUTION FROM PIC TO PAL
4.CHANGE 2SK1764 TO NDS9410(U100)

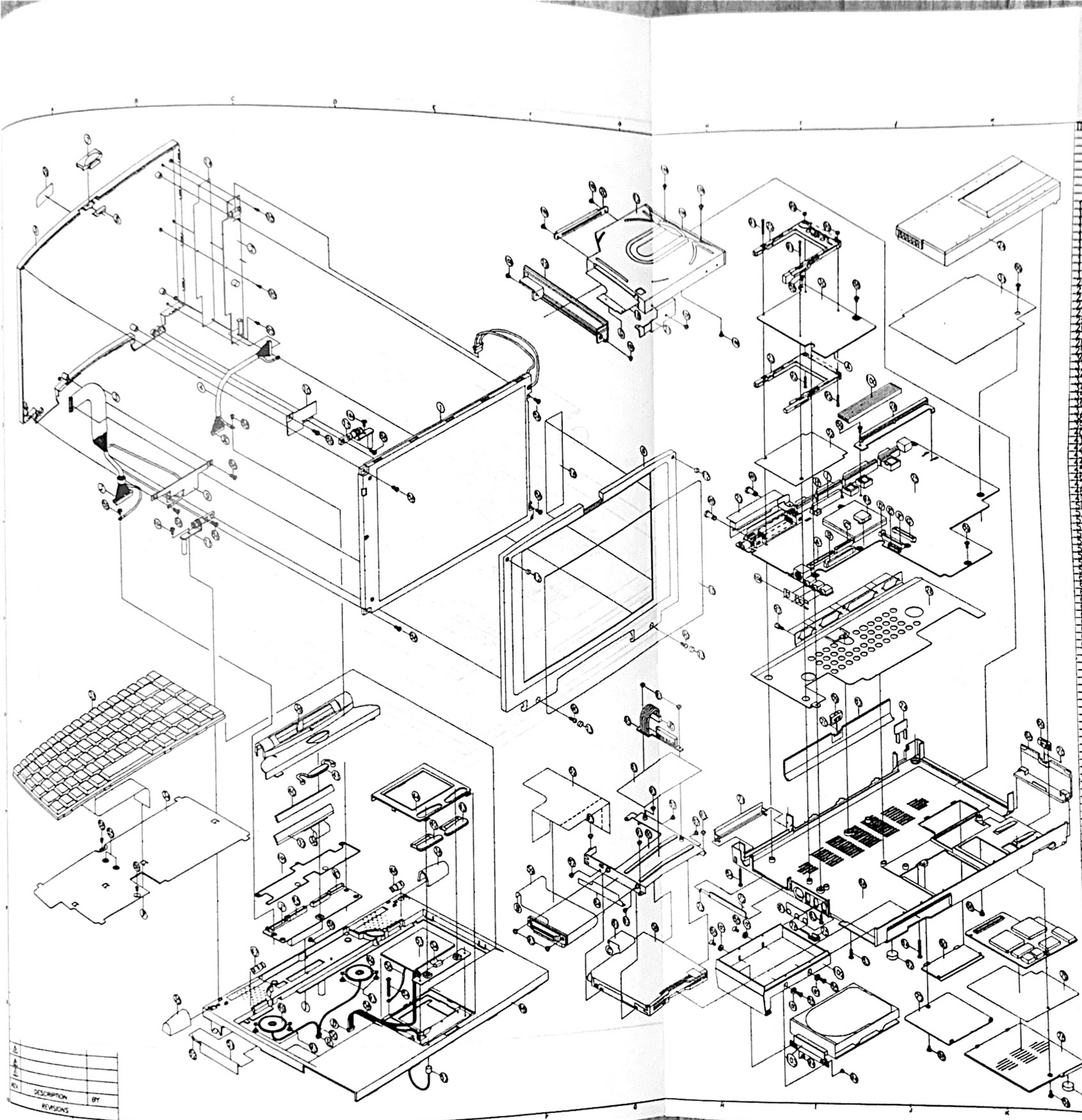

G753+ BLOCK DIAGRAM
REV : 00
10/20/95
OWEN LIN
DC JACK
BATTERY CONN
ON B/D DC/DC CKT
VGA
NEO MAGIC (2093) (TQFP 176)
AD722
TV (AD)
CRT
INVERTER
LCD
STATUS LCM
LCDI
FSC CSYNC
RGB
HSYNC/VSYNC
ZV PORT
PCMCIA DAUGHTER B/D
O2 MICRO (6730) (PQFP 208)
I2OP CONN
SOCKETA
SOCKETB
MTDP (TQFP 100)
MDFO..63
PLINKFO..15
DRAM
DIMM * 2
1X16 * 8 (16MB)
245
MMAFO..11
CNTL
MAFO..11
PENTIUM CPU
MTSC (PQFP 208)
HOST BUS
AF3..31
DFO..63
SRAM
TAG RAM
TAFO..7
TAG CNTL
MPIIX (TQFP 176)
PCI BUS
CNTL
ADDR/DBIA
IDE CMD PCI0646 (PQFP 100)
HDFO..15
CNTL
HDD
CD-ROM
SDFO..7
RTC DS12885 S0-24
32KHz
K/B CNTL M38802M2 TQFP-64
8MHz
INT K/B
EXT K/B
UP M37451SFP PQFP-80
10MHz
K/B BIOS
CLK GEN W48C60-405 SSOP-28
HCLKO
PCICLKO
14MHz
BOOUTFO..3
B2OUTFO..4
CPU MISC MTDP
SRAM
MTSC PCMCIA VGA
MPIIX DOCK
MK1410
14.318
17.734
14MHz
OSC14
24MHz
NM2093
MPIIX
PC87338
INT MIC
EXT MIC
LINE IN
LINE OUT
INT SPKR
AMP
MODEM DAUGHTER B/D
I2OP CONN
SOUND ES51878S (SQFP 100)
1669 SOUND UP/DOWN
HI LOW SILENT CONTL
BATTONE
MODSPK
SPKR
PCMSPK
ES690 PQFP-52
ES981 SOP-44
GAME
DOC CONN
EXT I/O BUS
SAFO..12
SDFO..7
ROM BIOS (28F020)
SUPER IO PC87338VJG (TQFP 100)
MAX213
COMA
COMA
LPT
FDD1
FIR
COMA
LPT
FDDO
CNTL
ADDR
DATA

Chapter 14 Main Board Layout Placement



HORLER CO., LTD
TEL: 886-2-695-8997
FAX: 886-2-695-9035

DATE	SEP-13-1996
PROJ	H9926B



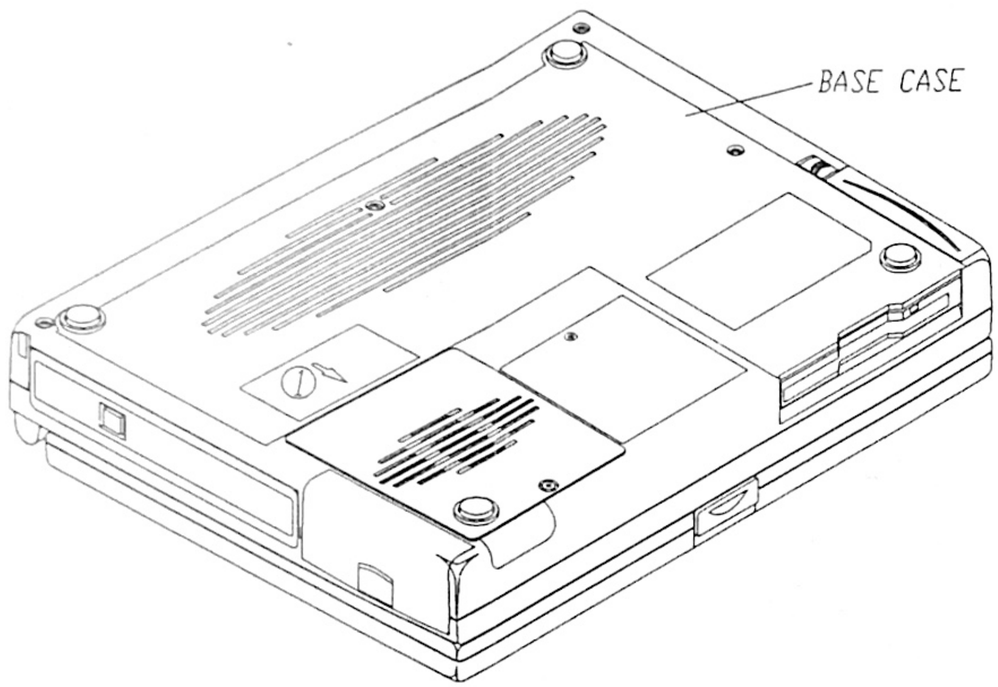
ITEM	DESCRIPTION	QTY	PART NO
1	SW CEIRUCHI (1.3 =LMC99002WCC)	1	LA01L011
2	INVERTER PCB	1	R0152A49
3	LCD CABLE(W/ 11.3" /WITH G753	1	R0102A28
4	INVERTER CABLE-AU	1	R0121A42
5	LCD POWER SW (11.3" HITACHI)	1	R0102A62
6	LCD DOOR	1	R0115A02
7	LCD DOOR SPRING	1	R0115A15
8	LCD BRACKET(L)	1	R0115A16
9	LCD BRACKET(R)	1	R0115A17
10	HINGE RUBBER	2	R0142A06
11	PANEL RUBBER	2	R0142A08
12	LCD CUSHION	2	R0142A09
13	SHIELD PAPER	1	R0142A13
14	SHIELD PAPER(LCD PROTECT	1	R0142A07
15	I/O=ROM (PCMCIA) =SBE=900	1	R0142A02
16	I/O=ROM (PCMCIA)	1	R0142A03
17	PANEL I/O=ROM (LEACHE G753)	1	R0142A04
18	HOOK I/O=ROM (LEACHE G753)	1	R0142A05
19	BRACKET I/O=ROM (LEACHE G753)	1	R0115A03
20	CONNECTOR SOCKET(BOTH APPROX PCS=582	1	R0055A00
21	BATTERY PACK	1	R0054100
22	MB	1	R0152A02
23	BRACKET I/O W/EMI G753+	1	R0115A04
24	BRACKET (LOCKING 17SPIN) G753+	1	R0115A05
25	FDD-ROM HOLDER GUIDE	1	R0115A06
26	LOGO (MYA)	1	R0054A01
27	PCMCIA SW G753	1	R0121A07
28	SHIELD ALFOIL FDD-ROM G753	1	R0142A11
29	SHIELD ALFOIL PCMCIA G753	1	R0142A12
30	K/B K9500-2BA HARNESS	1	R0121A52
31	CPU DISSIPATE PLATE G753	1	R0142A10
32	HINGE COVER (R)	1	R0211A30
33	HINGE COVER (L)	1	R0211A31
34	STAUDS LCD EPSON	4	R0115A08
35	LCM EPIC	1	R0121A53
36	LCM COVER	1	R0211A01
37	LCM LENS	1	R0204A01
38	POWER KNOW	1	R0025A18
39	TOUCH KNOB(L)	1	R0025A19
40	TOUCH KNOB(R)	1	R0025A20
41	TOUCH PAD COVER	1	R0219A34
42	LCD PCB	1	R0152A03
43	TOP CASE	1	R0115A01
44	K/B (LOCKED)	1	R0025A15
45	K/B (LOCKED)	1	R0025A16
46	SPEAKER DYNAMIC 30-BAB-05	2	R0042A02
47	SPEAKER CABLE	1	R0121A55
48	PCMCIA DOOR(U)	1	R0025A21
49	PCMCIA DOOR(U) SPRING G753	1	R0115A14
50	TOUCH PAD SYNAPTICS TM10015-0	1	R0152A04
51	TOUCH PAD FFC	1	R0121A07
52	GUIDEPOINT GROUND CABLE	1	R0121A54
53	SW PCB CABLE	1	R0121A51
54	MICRONAS/FDD-04HF	1	R5100047
55	FDD FPC(TEAC/FD-04HF)	1	R5102200
56	FDD BRACKET	1	R0115A18
57	FDD FPC(10 MH)	1	R5102200
58	SHIELD PAPER G753	1	R0142A09
59	SHIELD HDD G753	1	R0142A08
60	FDD CONN PROTECT SHEET	1	R0142A01
61	BALL CONTACT PCB ASSY	1	R0055A00
62	BASE CASE	1	R0115A02
63	I/O DOOR	1	R0025A22
64	BATTERY DOOR	1	R0025A23
65	DOOR HOOK	2	R0115A11
66	DOOR HOOK SPRING	2	R0115A12
67	DOOR HOOK SPRING	1	R0115A13
68	PCMCIA DOOR(D)	1	R0025A24
69	PCMCIA DOOR(D) SPRING	1	R0115A15
70	HP LENS	1	R0178A01
71	HDD HOOK	1	R0115A10
72	HDD HOOK SPRING	1	R0115A09
73	DRAM COVER	1	R0211A11
74	COVER MODEM G753	1	R0219A24
75	M-PEG COVER SHEET	1	R0142A11
76	BIOS COVER	1	R0211A12
77	BUTTONS NAME PLATE G753	1	R0178A02
78	RUBBER FOOT	4	R0115A03
79	SCREW B=M2.6X0.45X6=NI	1	R0311078
80	SCREW B=M2.6X0.45.10=BLACK	1	R0311077
81	SCREW F=M3X0.5X4=BLACK	4	R0311074
82	SCREW I=M3X0.5X6=NI	4	R0311085
83	SCREW I=M2.5X0.45X4=NI	4	R0311088
84	SCREW I=M2.6X0.45X4=BLACK	3	R0311075
85	SCREW I=M2.6X0.45X6=BLACK	6	R0311087
86	SCREW P=M3X0.5X6=NI	2	R0311056
87	SCREW P=M2X0.4X4=NI	2	R0311049
88	SCREW P=M2X0.4X14=NI	2	R0311047
89	SCREW W=M2.6X0.45X5=NI	4	R0311083
90	SCREW W=M2X0.4X4=NI	3	R0311082
91	SCREW (AP=H=#2X4=NI	3	R0310057
92	SHEET CU-FOIL (RS. ISOLATION	2	R0179A17
93	HEX 5-5X6#4-40NI	8	R0312201
94	HEX (BOP CON (AWP)	2	R0312203
95	HEX NUT M2X4=NI	2	R0312019
96	HEAT SINK	1	R0184A25
97	SHEET AL=FOIL (LCD) PCB G753+	1	R0179A28
98	HDD CASE	1	R0115A07
99	HDD FPC (10 MODULE)	1	R5102200
100	SCREW I=M2.6X0.45X6 NI/NYLOK	2	R0311162
101	SCREW W=M2=0.45=NI(NYLOK)	2	R0311226
102	PLATE GROUND SOUND JACK G753	1	R0184A21
103	SPONGE HDD CUSHION G753	1	R0272A20
104	BEZEL MODULE (/mm BLACK	1	LA01161-
105	SCREW I=12.0+4.0=NI	3	R0310055

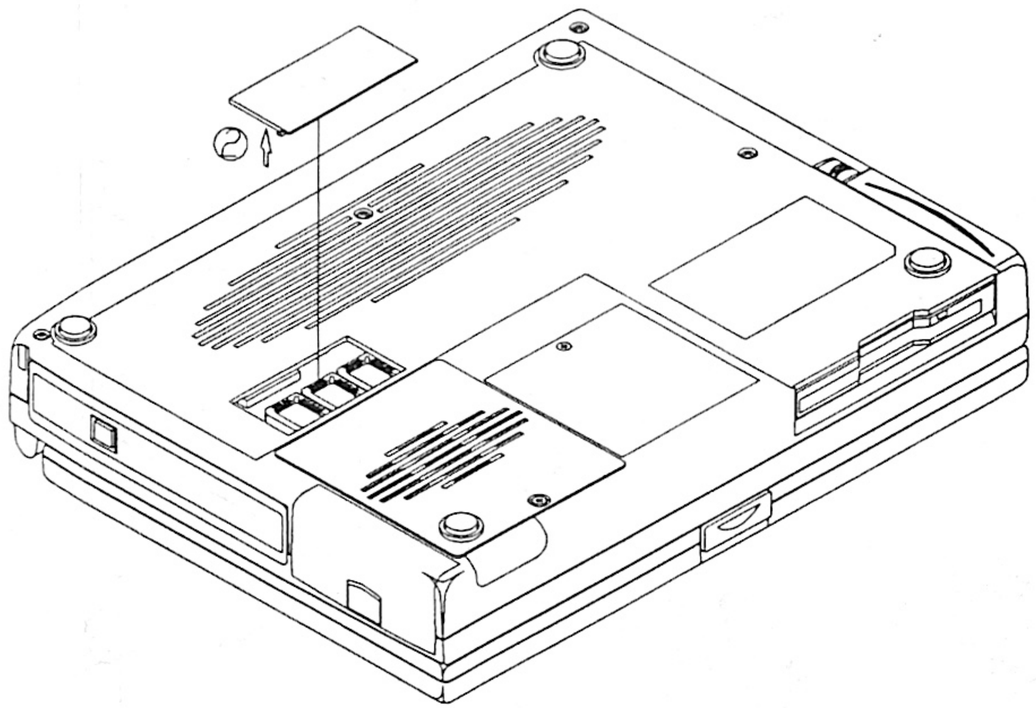
ITEM	PART NO.	DESCRIPTION	MODEL

ALPHA-TOP CORPORATION

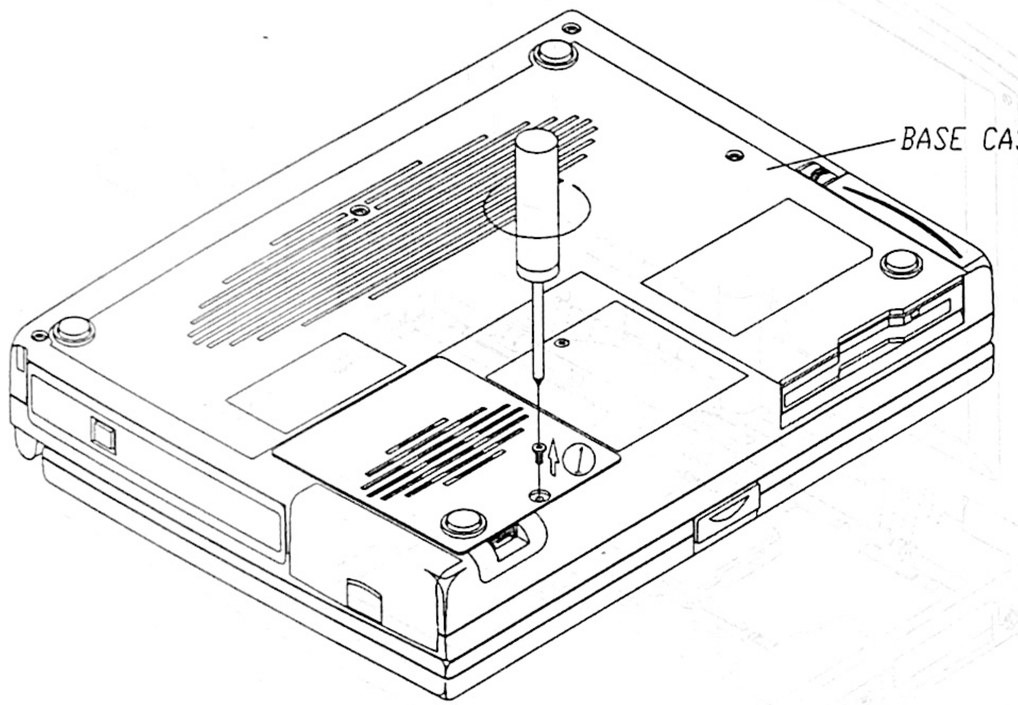
TOL. TABLE		NAME	EXPLODE DWG. G-753+ STN 11.3 HITACHI	APPROVE
ANGLE		MATERIAL		UNIT MM CHECK
DIM	TOL. ±	FINISH		SCALE 0.4/1 DESIGNED
0~10	0.08	THE 3RD PROJECTION		COPY SCALE DRAWN
10~60	0.10	DWG. NO.		ALEX CHIU
30~100	0.15			DATE 02/10/97 REV. SH. /
100 /	0.20			

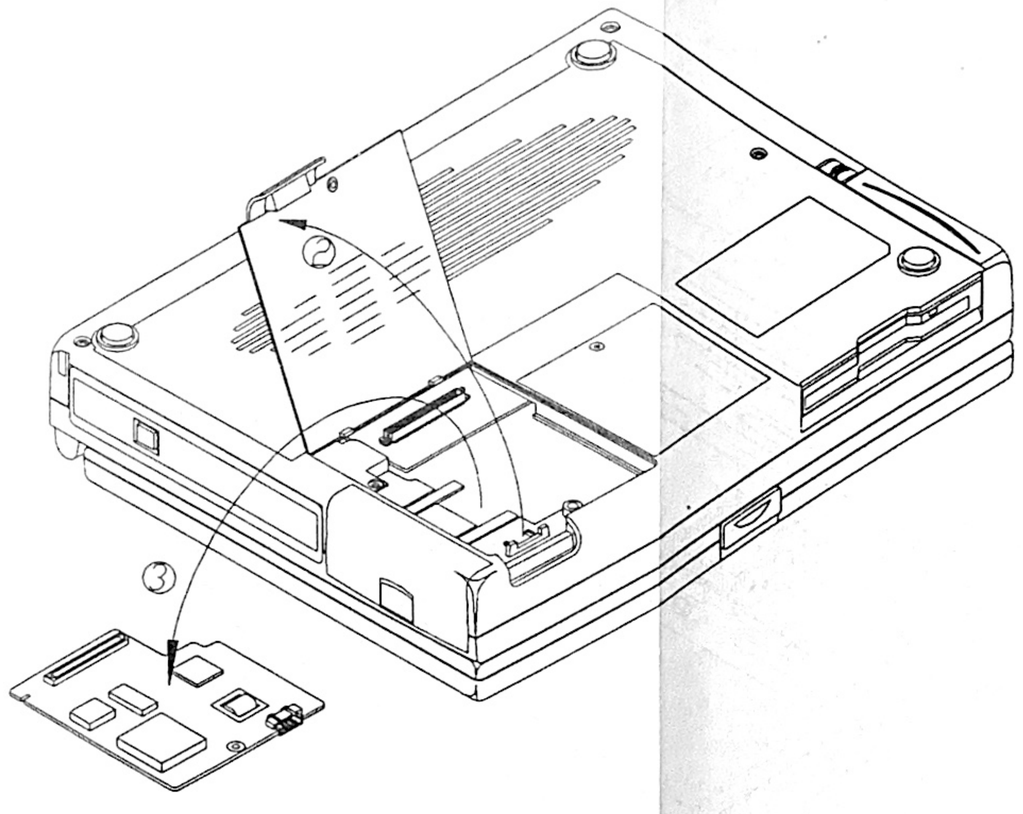
REV	DESCRIPTION	BY
	REVISIONS	



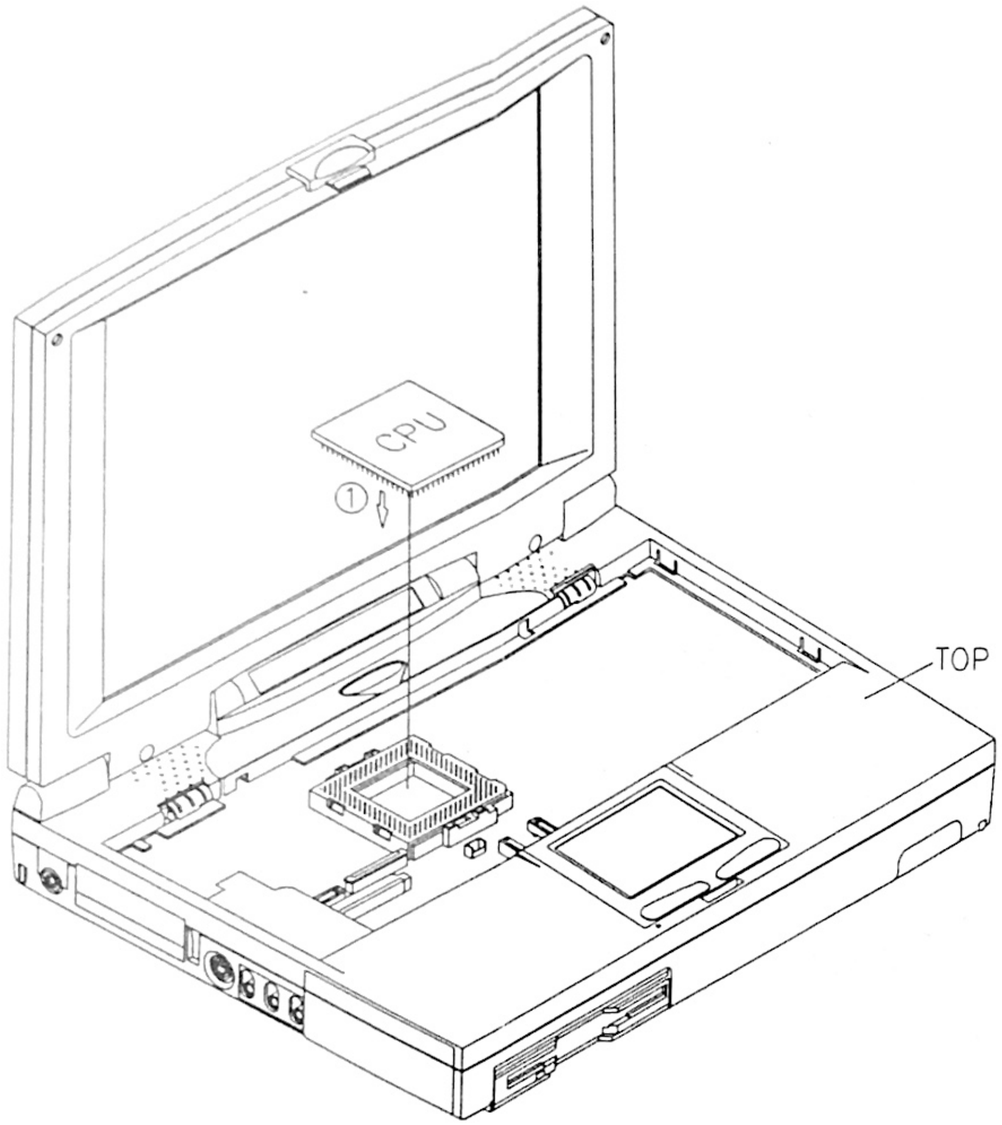


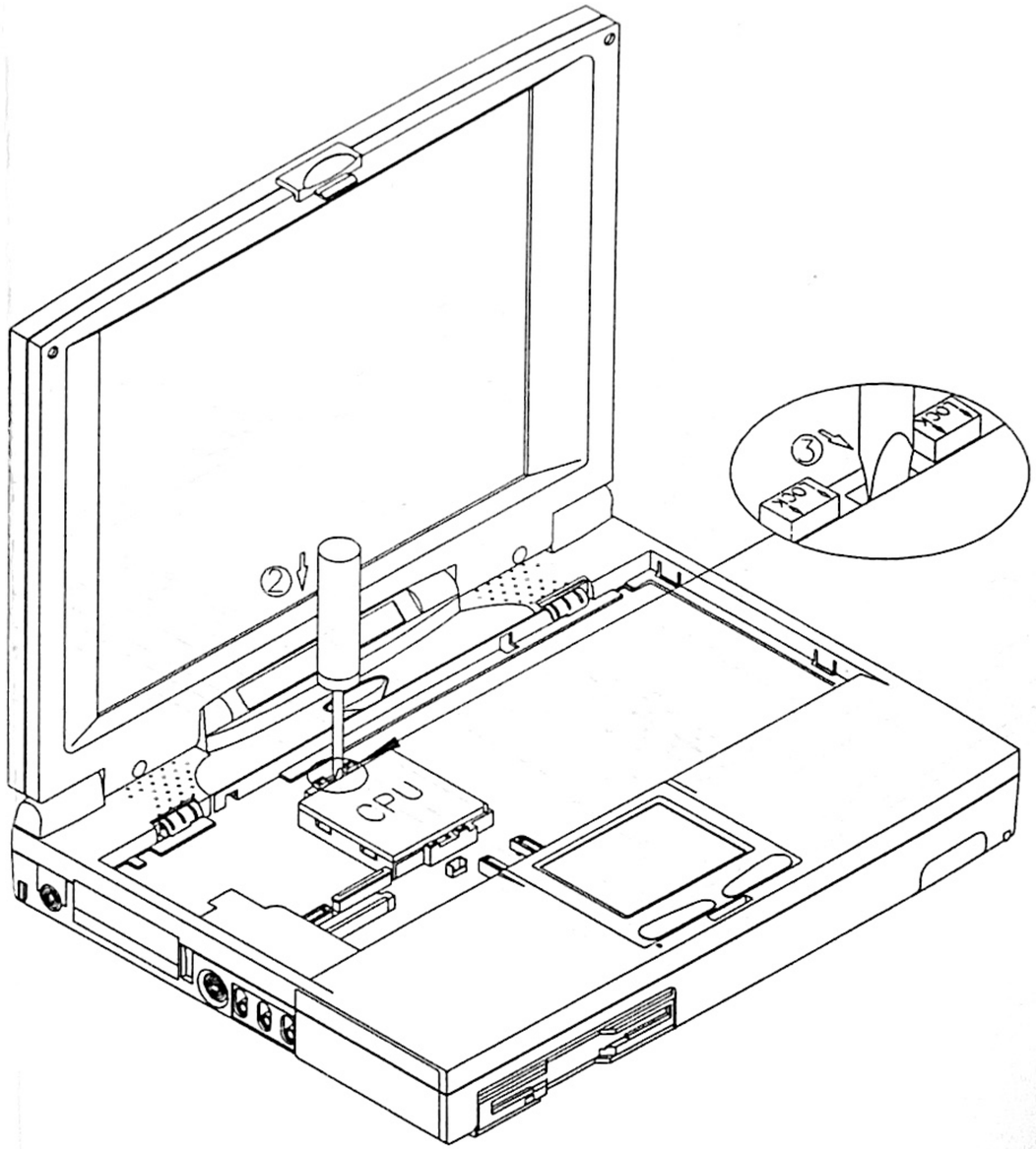
NO	PART NAME	Q'TY
1	BIOS COVER	1
2	BIOS COVER	1

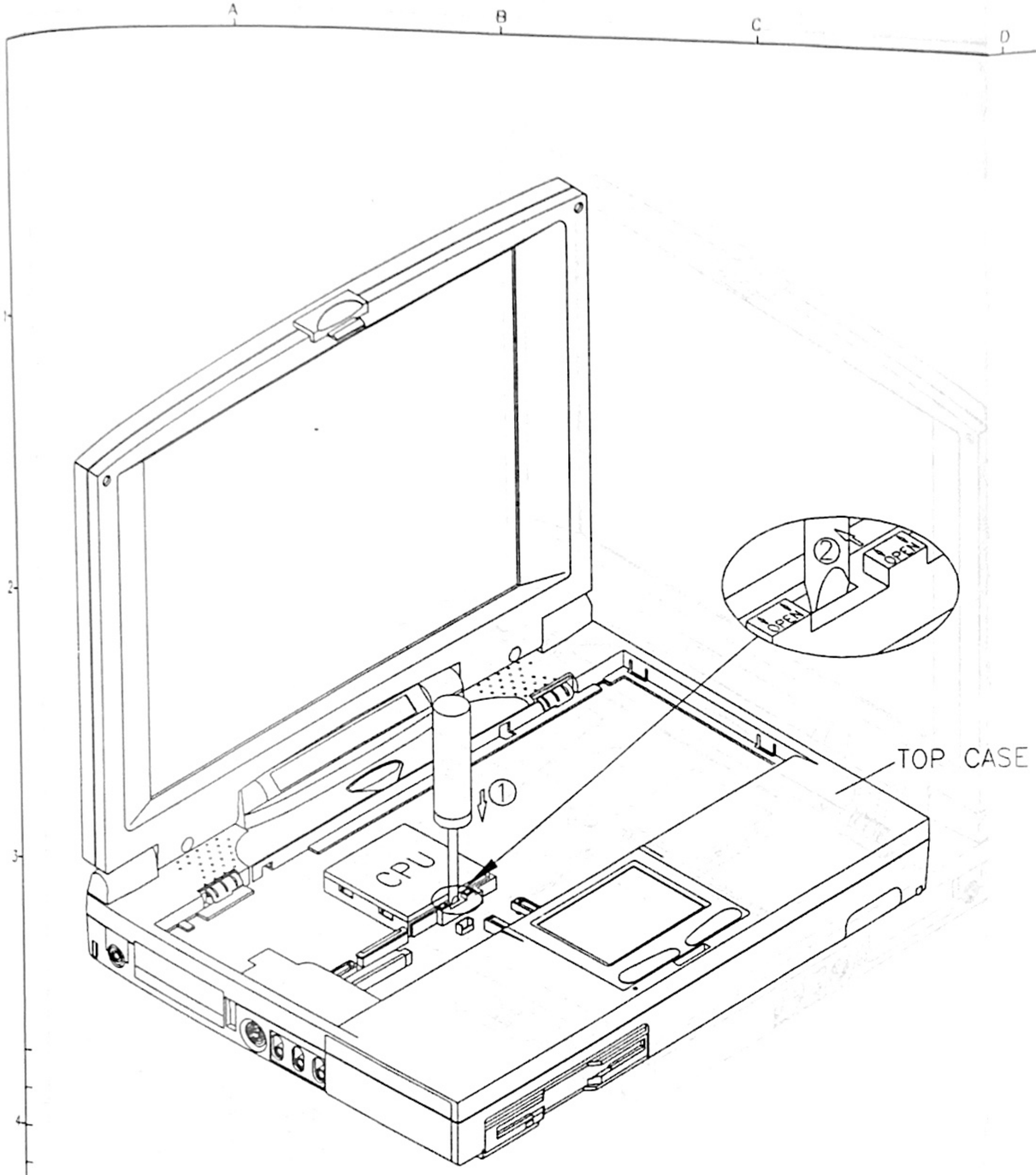


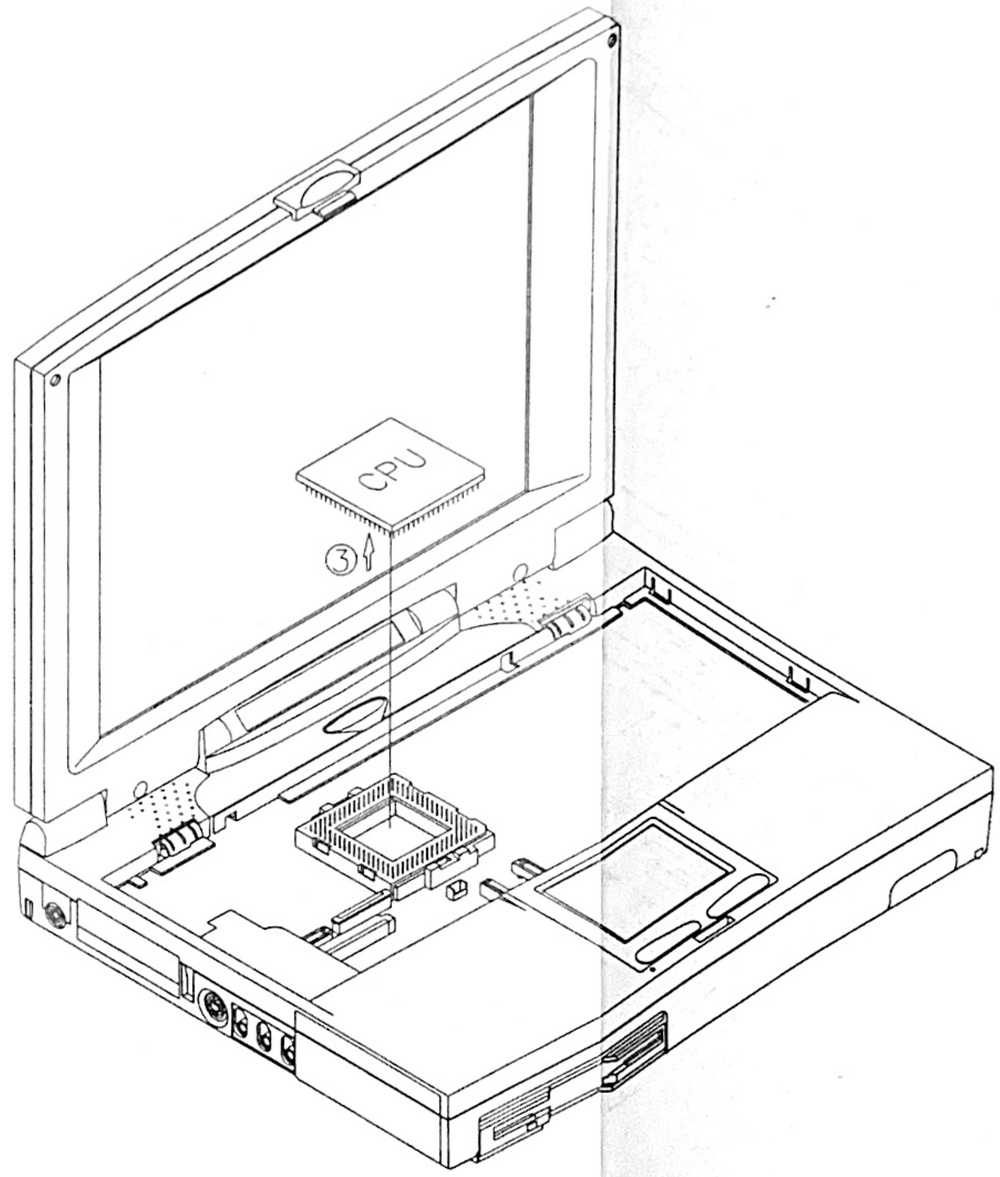


NO	PART NAME	Q'TY
1	SCREW I-M2.6*0.45*6-BLACK	1
2	MODEM COVER	1
3	MODEM CARD	1


CPU
①
TOP CASE


②
③
CPU


OPEN
OPEN
②
①
CPU
TOP CASE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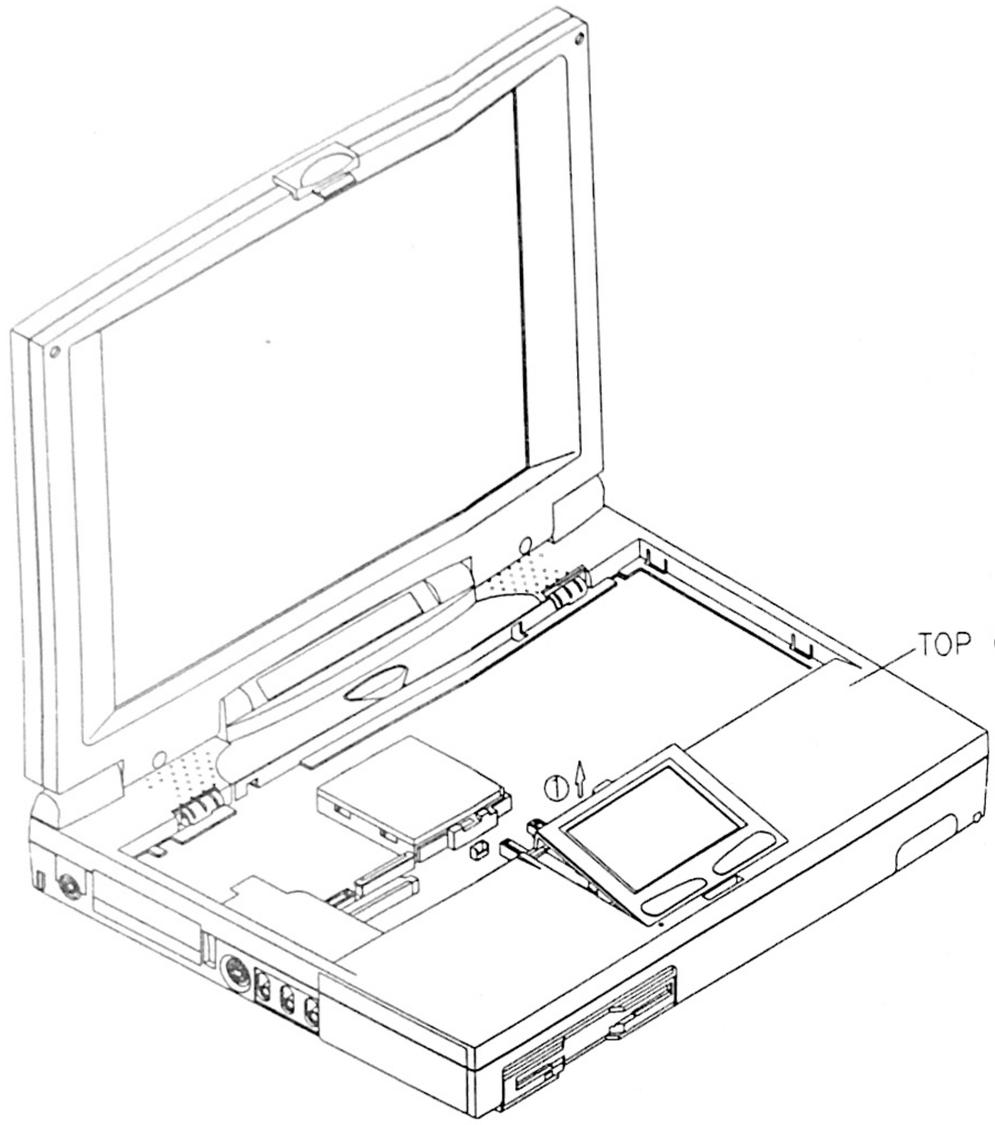
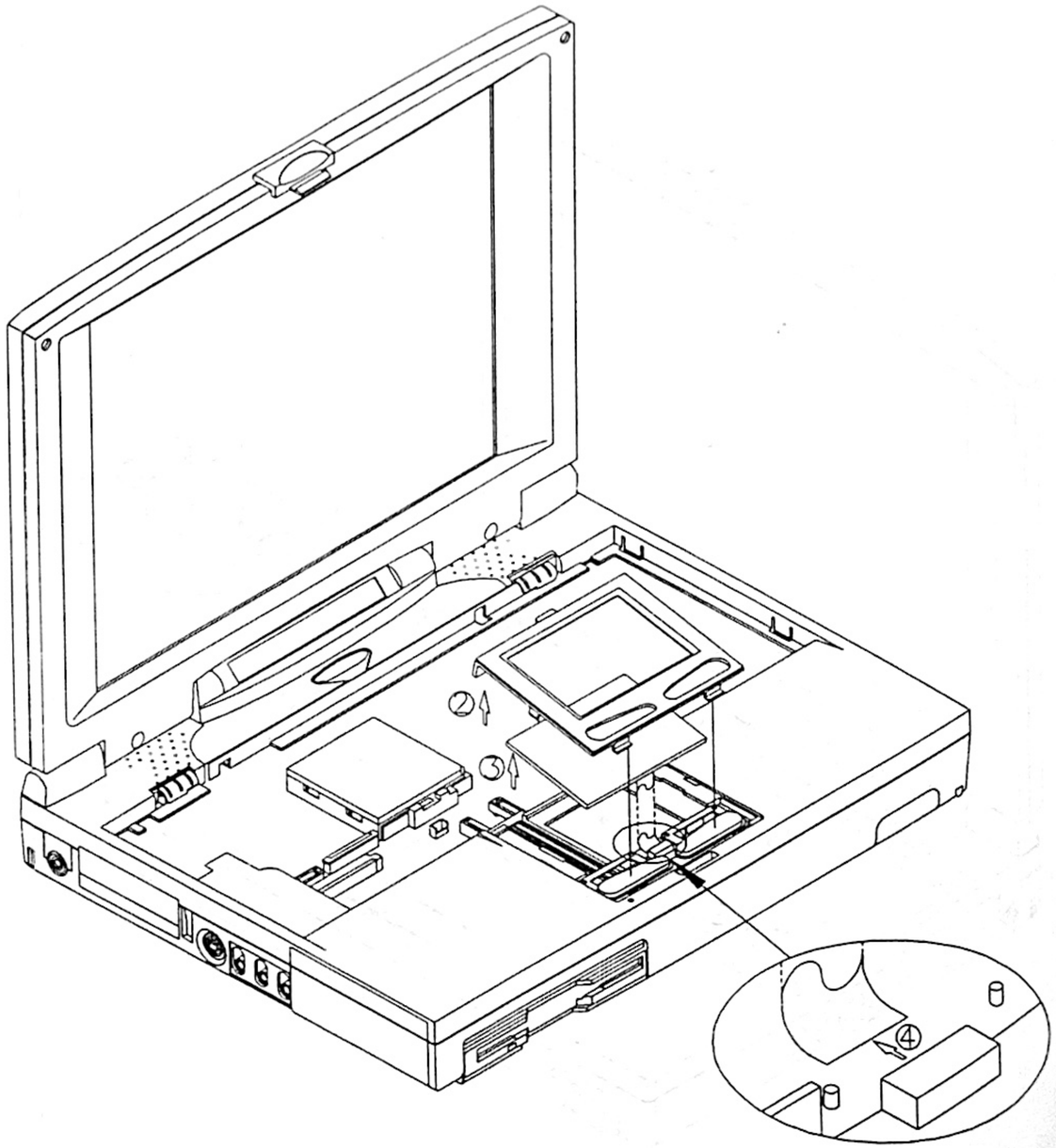
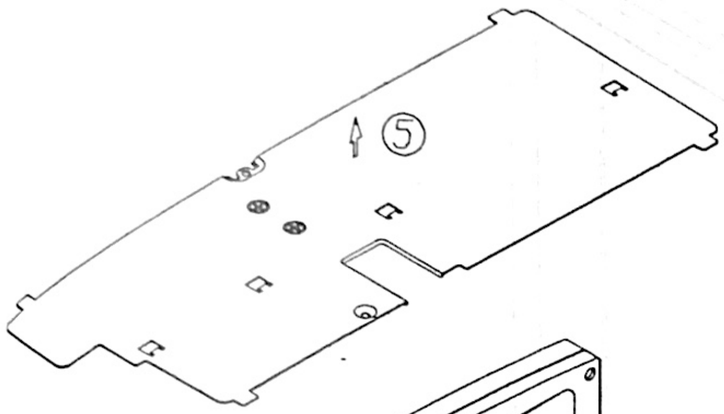
③

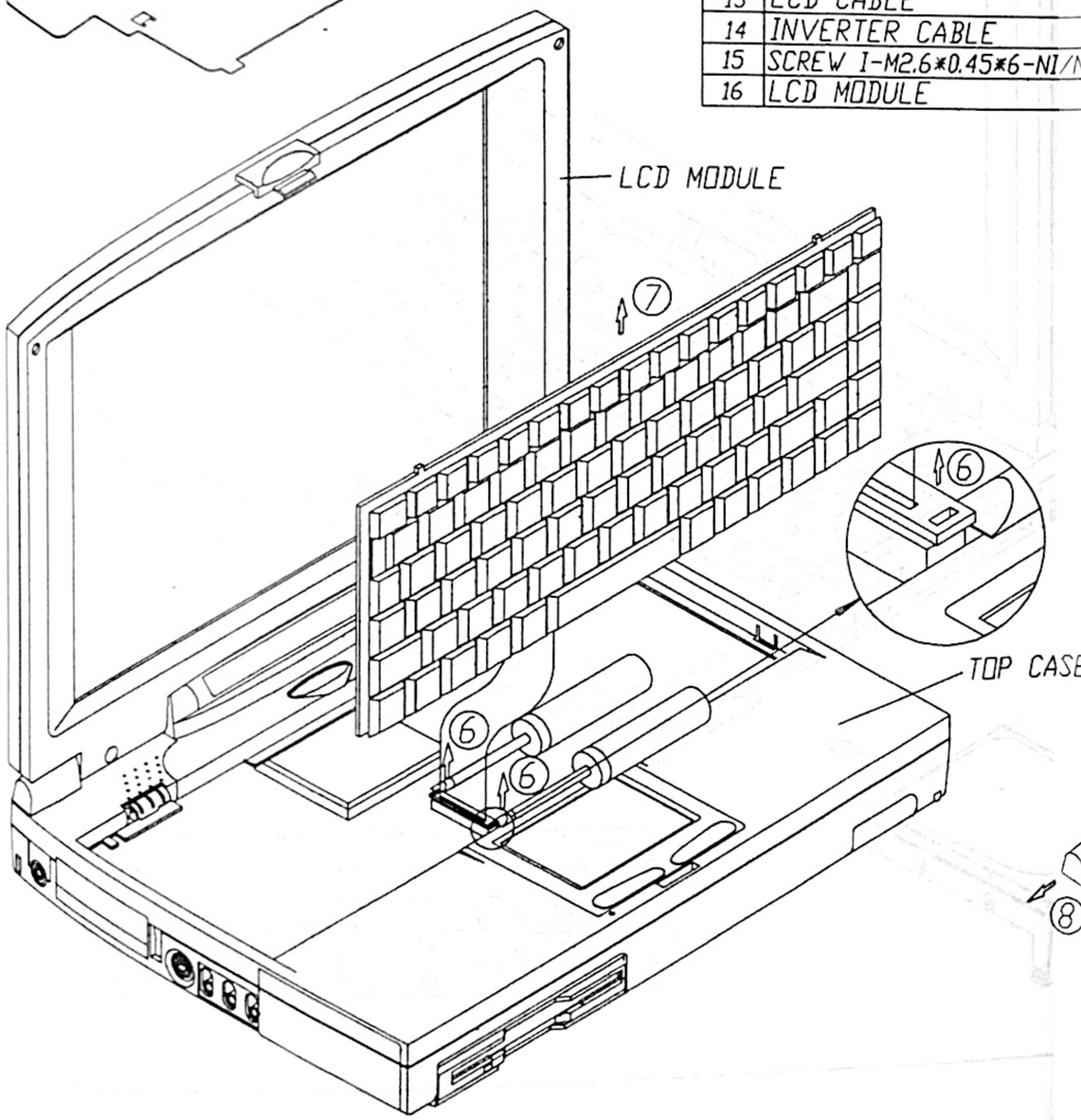


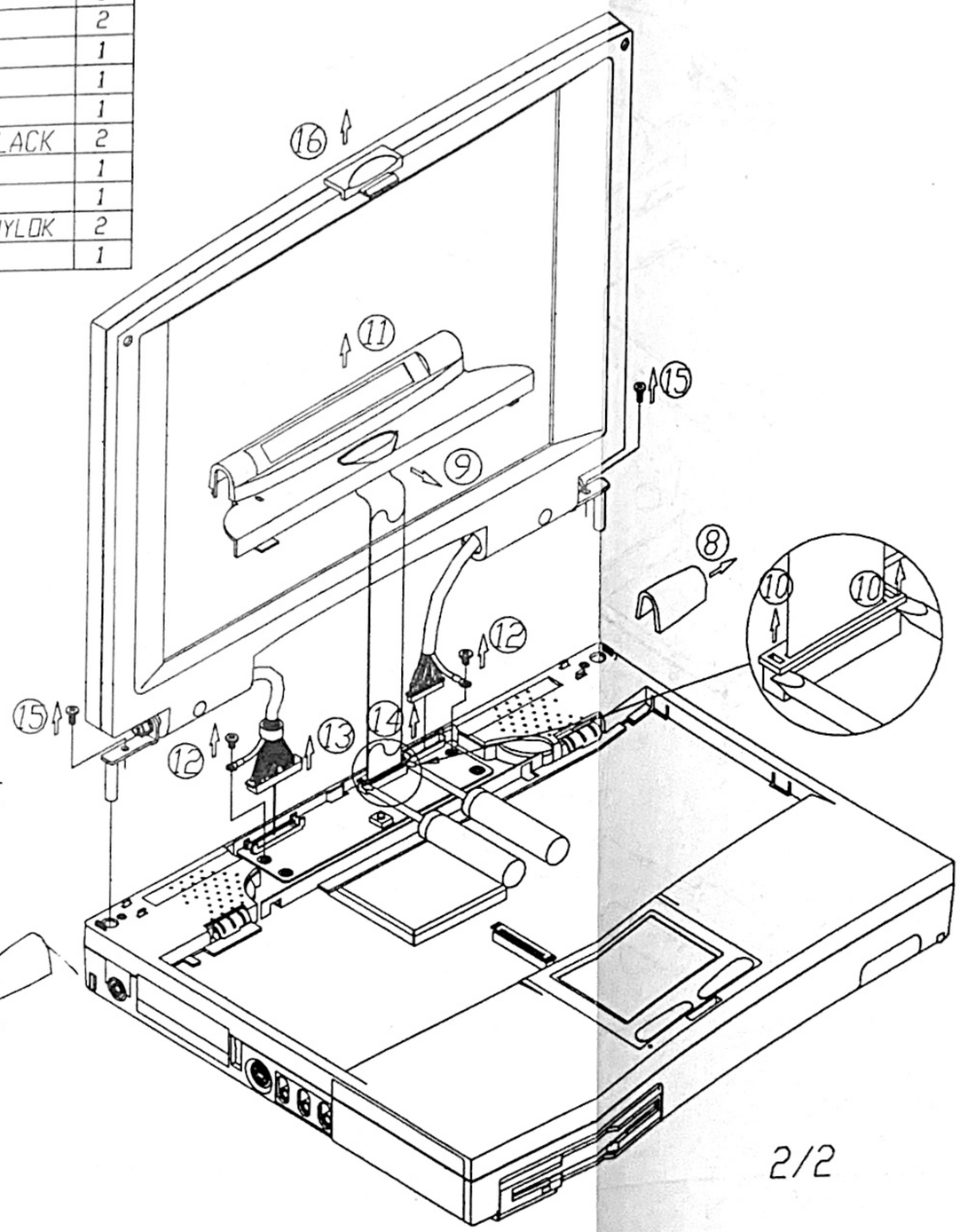


NO	PART NAME	Q'TY
1	TOUCH PAD COVER	1
2	TOUCH PAD COVER	1
3	TOUCH PAD	1
4	TOUCH PAD FFC	1

NO	PART NAME	Q'TY
5	CPU DISSIPATE PLATE	1
6	KEYBOARD CONNECTOR	1
7	KEYBOARD	1
8	HINGE COVER	2
9	LCM COVER	1
10	LCM CONNECTOR	1
11	LCM COVER	1
12	SCREW I-M2.6*0.45*4-BLACK	2
13	LCD CABLE	1
14	INVERTER CABLE	1
15	SCREW I-M2.6*0.45*6-NI/NYLOK	2
16	LCD MODULE	1







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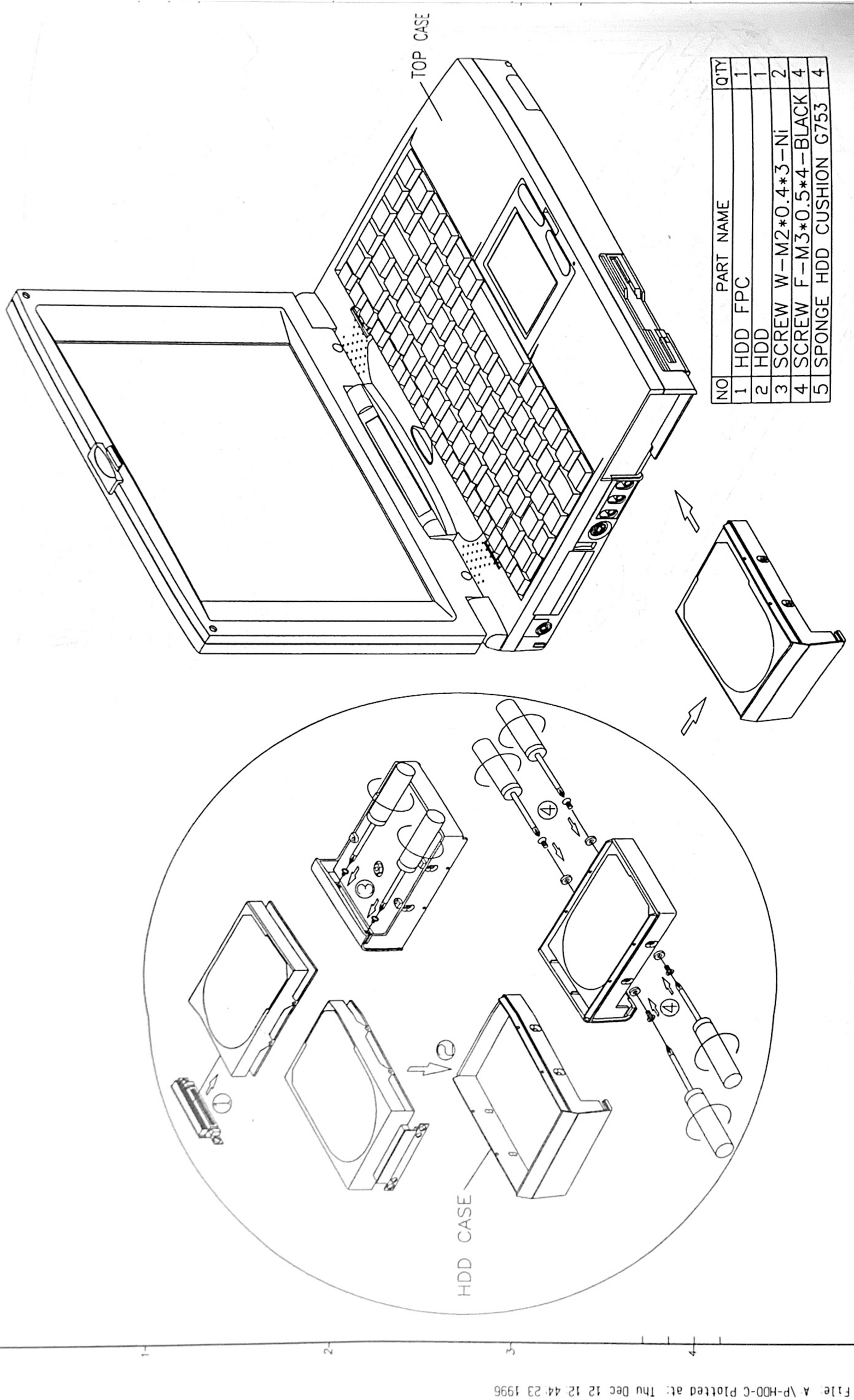
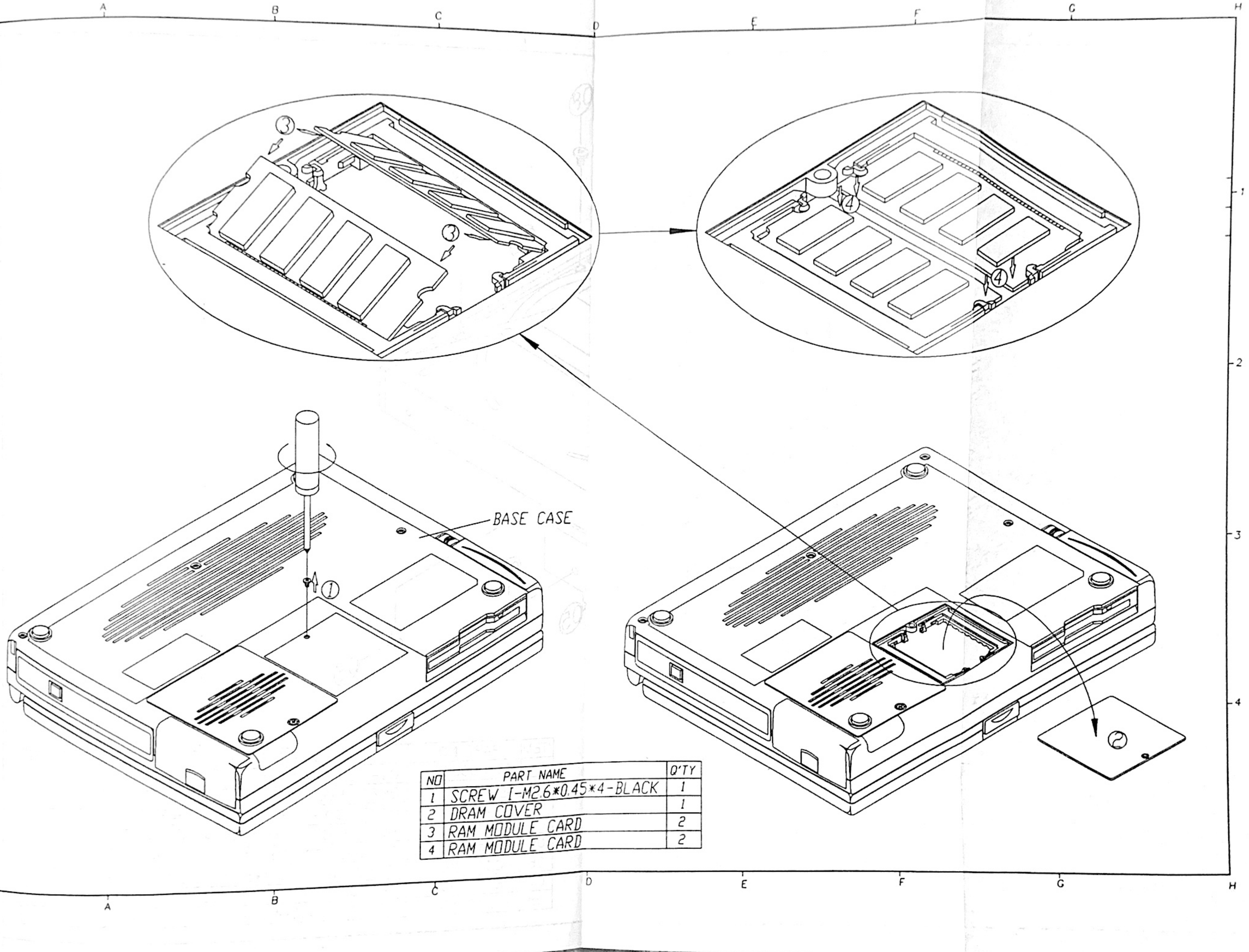


NO	PART NAME	Q'TY
1	HDD FPC	1
2	HDD	1
3	SCREW W-M2*0.4*3-Ni	2
4	SCREW F-M3*0.5*4-BLACK	4
5	SPONGE HDD CUSHION G753	4

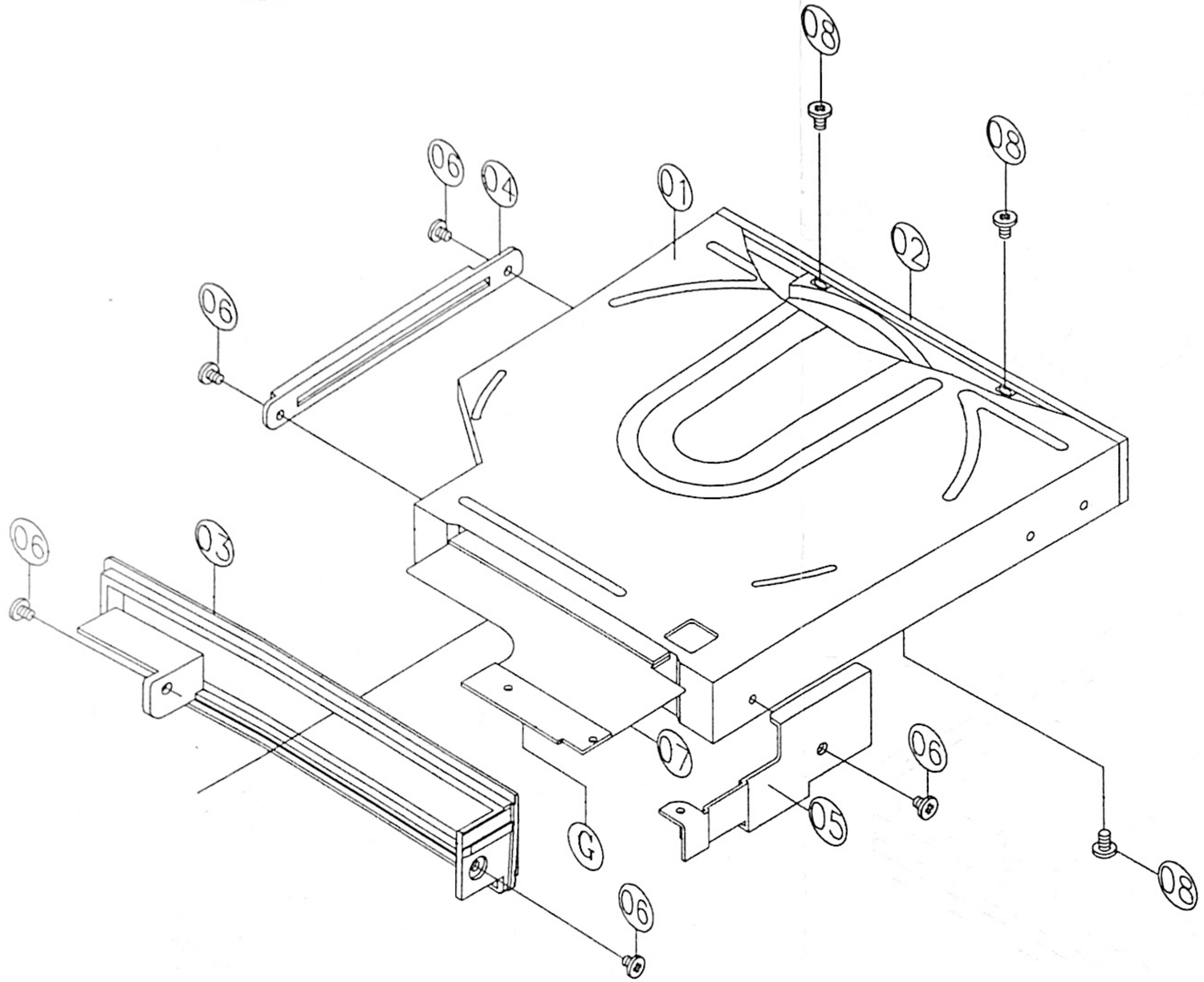
AutoCAD File: A:\P-HDD-C Plotted at: Thu Dec 12 12:44:23 1996
alex

裝入RAM MODULE CARD

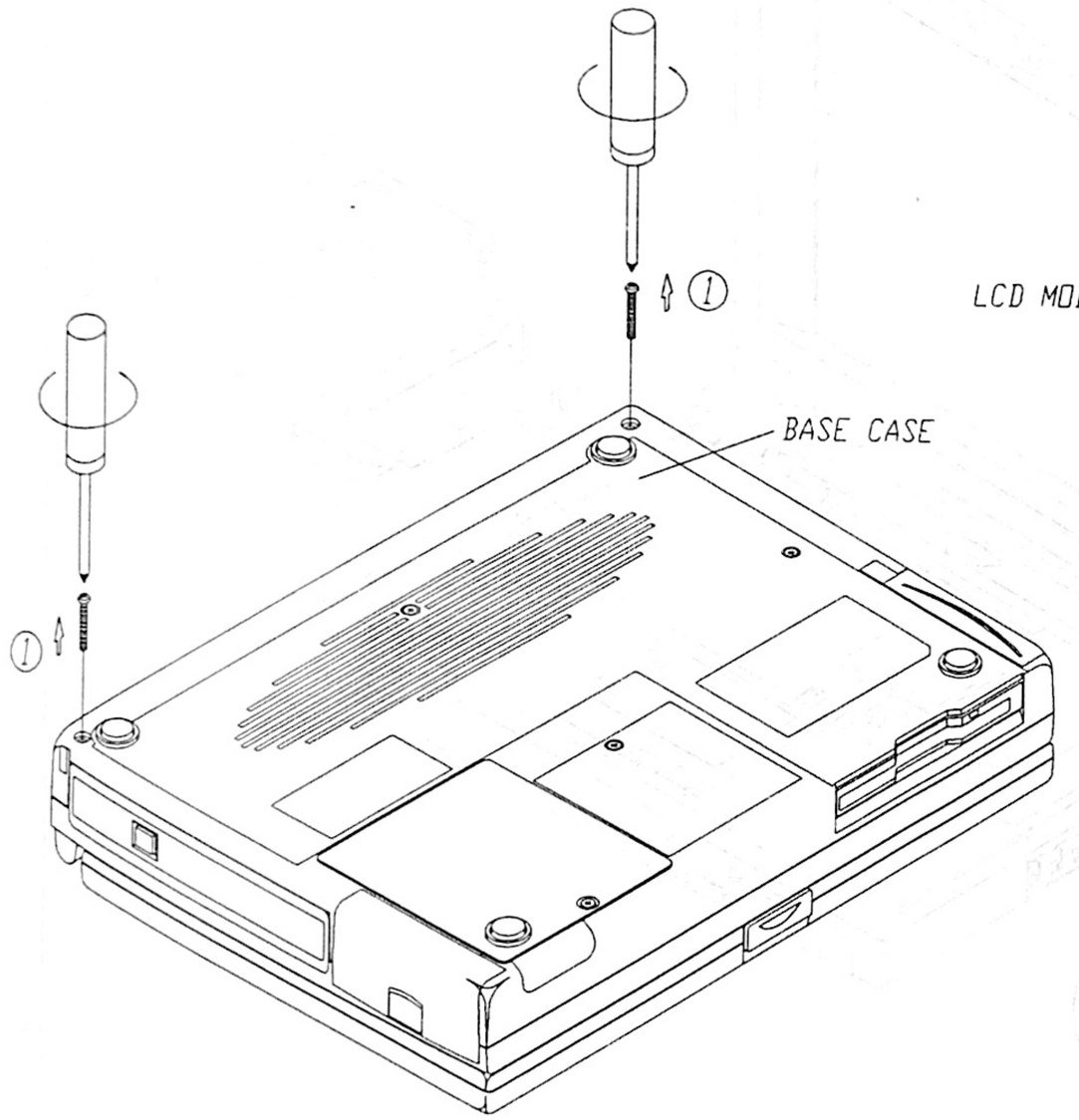
OK

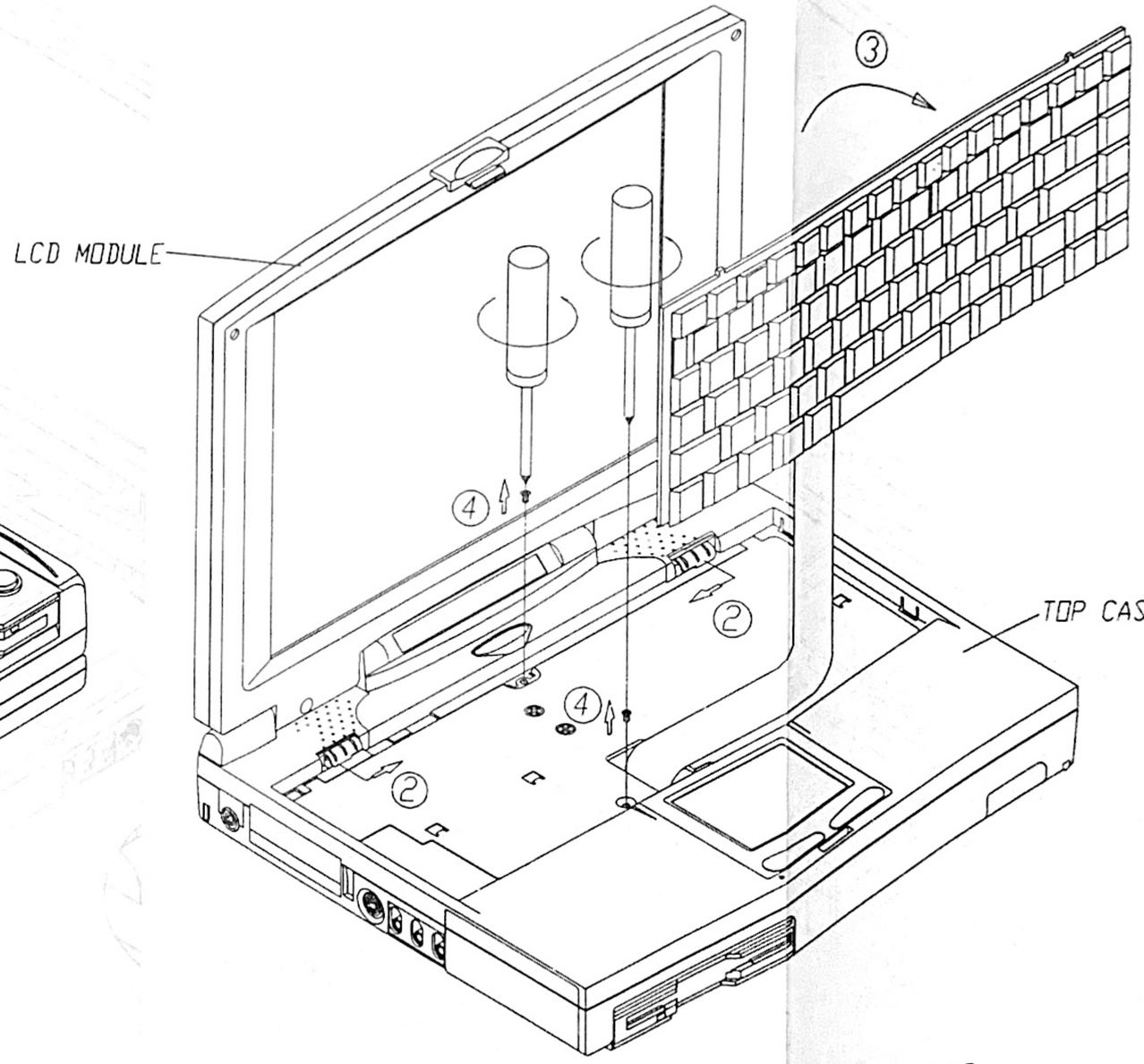


NO	PART NAME	Q'TY
1	SCREW I-M2.6*0.45*4-BLACK	1
2	DRAM COVER	1
3	RAM MODULE CARD	2
4	RAM MODULE CARD	2



ITEM	PART NO.	DESCRIPTION	Q'TY	REMARK
01	33400057	CD-ROM TEAC CD-38E-900	1	
02	LA011161	BEZEL MODULE 17mm BLACK	1	
03	R0259135	PANEL CD-ROM TEAC38E G753	1	
04	R0180N03	HOLDER CD-ROM TEAC38E G753	1	
05	R0157N63	BRACKET CD-ROM TEAC38E G753	1	
06	R0311229	SCREW W-M2*0.4*3 NI(NYLOK)	5	
07	KE102300	FPC CD-ROM TEAC G753	1	
08	R0310055	SCREW I-T2.0*4.0L-NI	3	

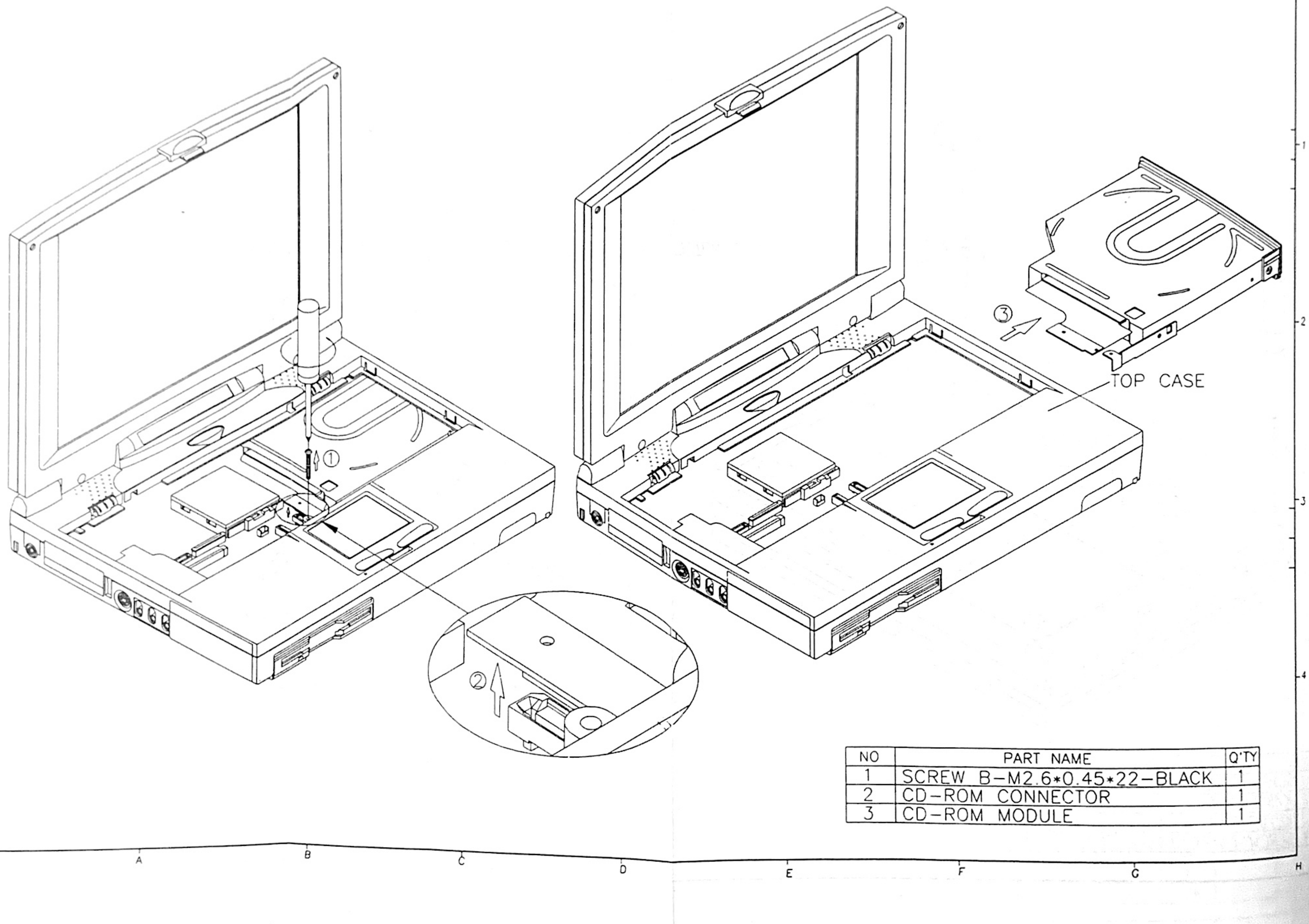




NO	PART NAME	Q'TY
1	SCREW B-M2.6*0.45*22-BLACK	2
2	K/B LOCK	2
3	KEYBOARD	1
4	SCREW I-M2.6*0.45*6-BLACK	2

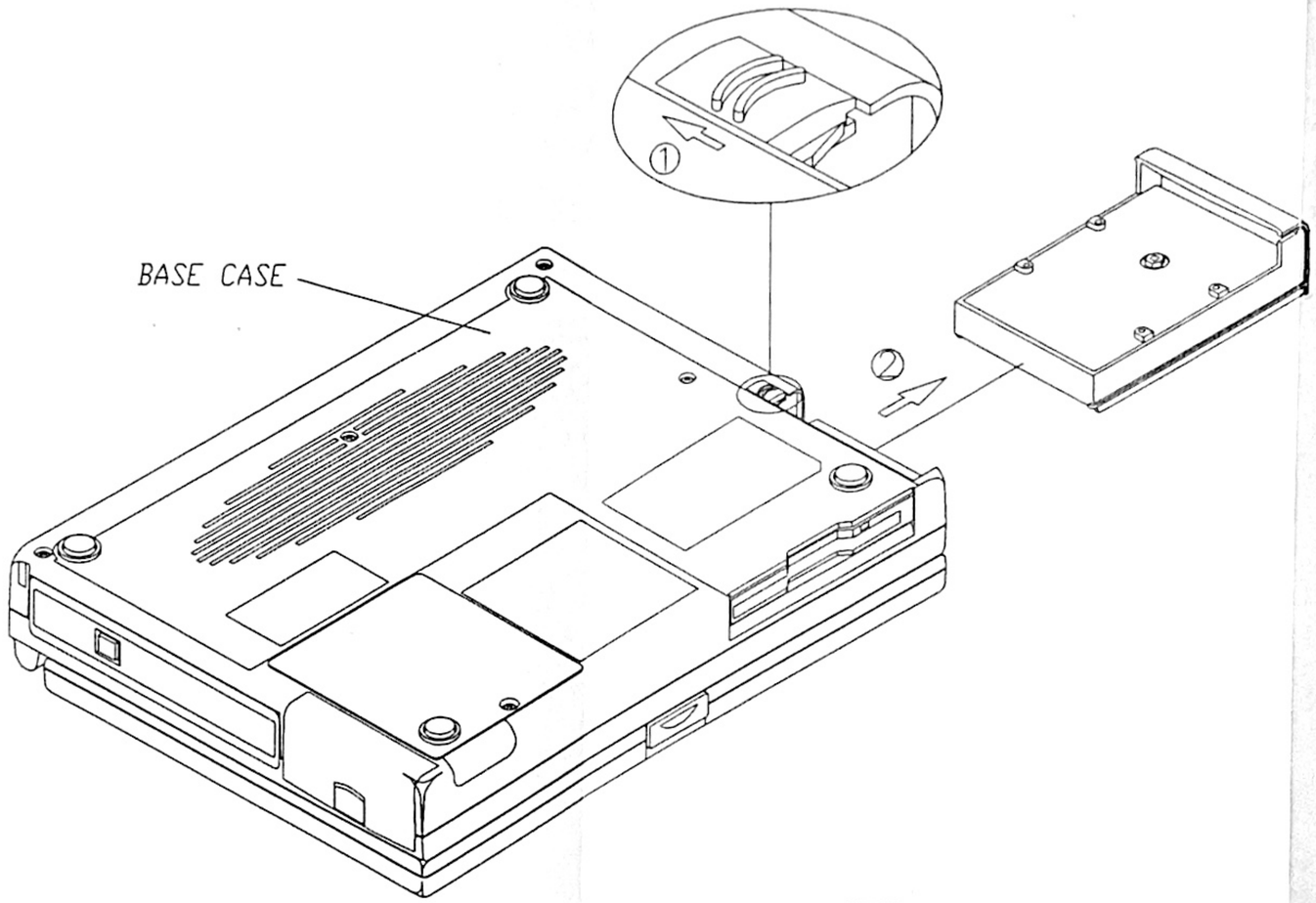
1/2

卸下 CD-ROM MODULE之步驟



NO	PART NAME	Q'TY
1	SCREW B-M2.6*0.45*22-BLACK	1
2	CD-ROM CONNECTOR	1
3	CD-ROM MODULE	1

取下 HDD MODULE 之步驟



NO	PART NAME	Q'TY
1	HDD HOOK	1
2	HDD MODULE	1